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Density in Yarn Packages..Mar. 26
Microscopic Fiber Study.....April 2

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Marquisette Weaves .....April 9

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Preventing Shrinkage of Wool Knit Goods .....April 2

ENGINEERING

Conveyor Maintenance .....April 2
Unit Heaters .....April 2
Storage Tanks .....May 7

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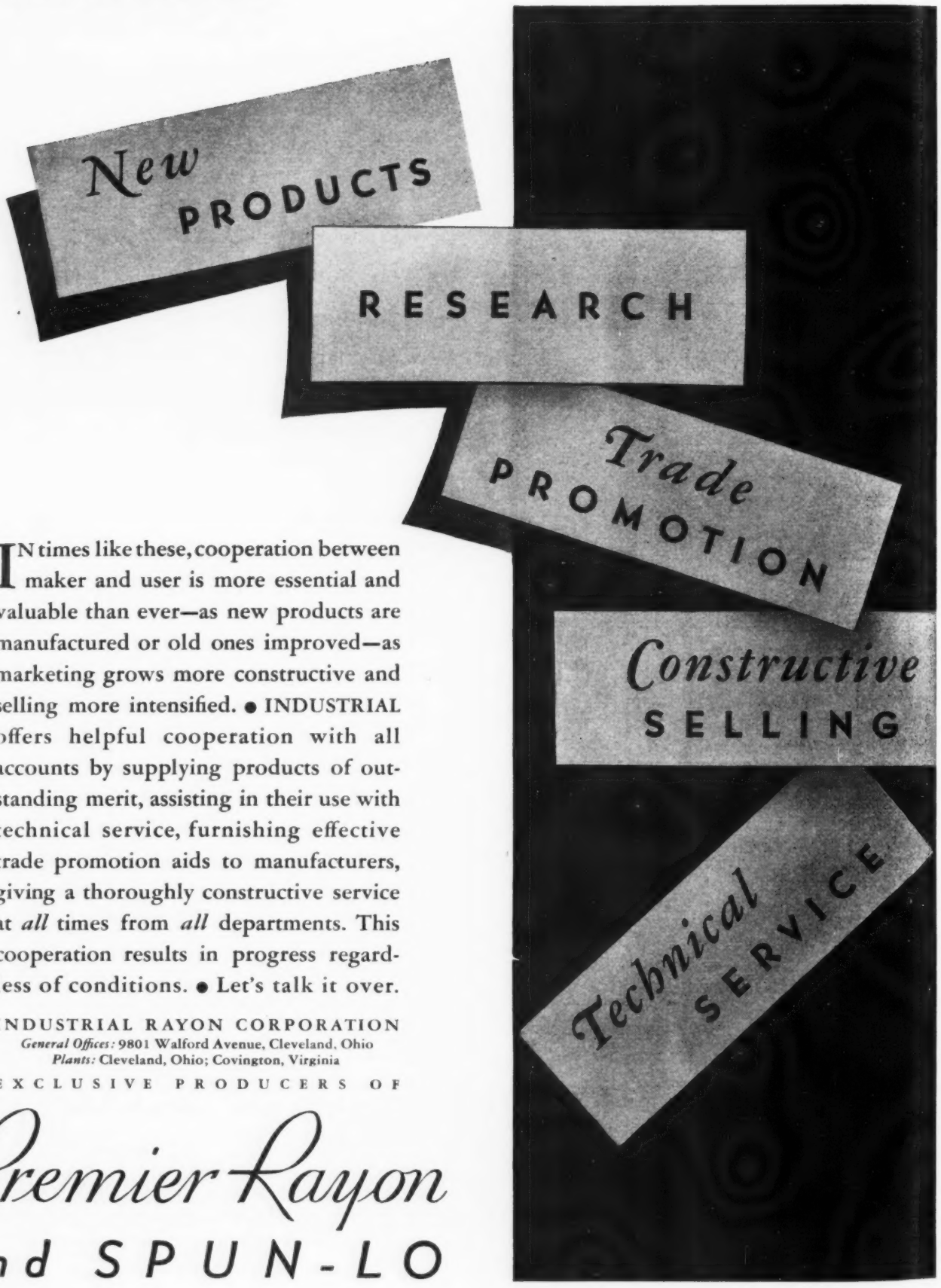

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Editor: Douglas G. Woolf

Rattling the Boycott Sword

UNIVERSITY faculties and women's organizations have a noble motive in suggesting a consumer boycott of Japanese goods. Prompted by the desire to promote the cause of world peace, they see in the boycott a means of forcing Japan to depart from military tactics.

Unfortunately, as in many such cases, the method is not worthy of the motive. In fact, we visualize the boycott as a very excellent means toward quite the opposite end.

▼

For the purposes of this discussion, we are not concerned with the relative merits of the Japanese or of the Chinese case. We are concerned merely with the potential effectiveness of the proposed remedy.

International antagonisms must be kept at a minimum if the threat which the situation in the Far East offers to world peace is to be averted. Injection of further grounds for ill-will certainly cannot contribute to an early settlement. Boycott action by the people of a great neutral nation very decidedly falls into such a category. In fact, it could only be interpreted as a declaration of industrial war.

It has been argued by those opposing the boycott that hundreds of thousands of workers in American silk mills would be thrown out of employment. Despite our deep interest in the welfare of that industry, and our concern over any further addition to economic disturbance, we do not feel that that is the principal issue involved. Particularly are we inclined to believe that such an argument will make little impression upon people and organizations who have as their goal the furtherance of world peace. Against such a motive, the progress of one small branch of industry is, and should be, of little moment.

Instead, the proponents of the boycott idea must be convinced that the weapon they propose using would not accomplish its purpose.

Past events have built up a very considerable anti-Japanese sentiment in this country, and particularly in certain parts of the country. Here again, we are not concerned with the controversial issues involved. We are concerned merely with what we understand to be the aspiration of the great majority of the people in this and other nations: world peace.

The boycott agitation, if continued, will gain many adherents working ostensibly for the latter cause but actually, even though possibly subconsciously, finding expression for the anti-Japanese sentiment referred to above.

▼

Textile manufacturers, including even those engaged in lines other than silk, have a two-fold interest in this subject. They do not want to see peace endangered; they do not want further instability in any branch of their industry.

It is to be hoped that they will become convinced that the first-named consideration is infinitely the more important, and that they will take pains to convince others.

The Week in Textiles

as Reflected in This Issue

General

Research Brings Stability

The story behind the continued success of the Russell Mfg. Co. is revealed. Research has played a large part in enabling this company to produce articles which meet with favor, and to secure stability of production. *(page 32)*

Garage Layout

Consideration is given to the most efficient and economical method of designing a garage for the housing of mill trucks. Suggestions for layout are given. *(page 34)*

Selecting Power Plant Equipment

Jumping at conclusions formed from a glance at machine specifications may often lead to an unnecessarily large expenditure of money and unsatisfactory results. A careful study often leads to the disclosure of hidden factors which do not appear on the surface. *(page 36)*

Commission Selling

Commission selling at former percentages while prices are on today's low basis, reduces the return to the commission house to a point where quality of service is threatened or continuous loss faced, says this week's TEXTILE WORLD Analyst. No blanket solution has appeared but several possibilities are explained. *(page 51)*

Cotton

Anti-Nightwork Program

The cotton industry's program in banning night work for women and minors has been overwhelmingly reaffirmed at the close of the first year of operation and it is in effect for another 12 months, beginning March 1, according to announcement this week by Cotton-Textile Institute. *(page 27)*

Textiles, Inc., Report

The annual report of Textiles, Inc., covering 1931 shows a small deficit for the year due to curtailment and inventory loss. *(page 28)*

Cotton Reactionary

The dull time in the cotton market has resulted in slight sagging of values. In general the background still has all the elements of firmness it had two weeks ago, but with absence of support slight reactions have been a natural result. *(page 53)*

Yarns Very Dull

Cotton yarn sellers have been experiencing one of their dullest periods. The combed and mercerized divisions of the trade are not so stagnant, however, as are carded yarns. *(page 53)*

Cottons Fairly Stable

Announcement this week by the Cotton-Textile Institute that the anti-night work program for women and minors had been continued in effect for another year, gave additional stability to the cotton goods market in a dull period. Bleached goods advanced. *(page 57)*

Wool

Merino Blending

A satisfactory procedure for blending cotton with wool on the French worsted system is outlined. The factors which control the draft at the various machines, the method of obtaining the proper percentage of each fiber in the final end, etc., are discussed. *(page 30)*

Wool Week Next Fall

National Wool Week will be held in fall, probably in October, and will be directed again by Col. Chas. F. H. Johnson, as chairman, it was decided at a meeting of the National Wool Week Committee and other organizations representing the wool industry held Tuesday in New York. *(page 40)*

Spinners Plan Credit Service

Worsted yarn spinners plan a credit investigating and reporting service under the directorship of Frank E. Slack. Offices will be maintained in Philadelphia. *(page 40)*

Mechanical Yarn Inspector

An improved device for detecting flaws in worsted yarn is described. It is simple in operation, and comes as standard equipment on a well-known type of winding machine. *(page 46)*

Striped Effect in Overcoating

A method of shearing whereby regular indented stripe or diagonal effects

The Textile Outlook

EXCEPT in certain groups of specialties which have been selling fairly well, the textile industry seems to have come up against sluggish distribution to the consumer as the next barrier to break down on the road to better business. The consumer's reduced buying power is, of course, a factor, but many textiles are already priced down to or below the average of this reduction. Retail trade in February is reported to have been absormally light and it may be surmised that consumers are letting themselves go short of textiles and that a period of covering must develop before many more months elapse. The specialties referred to at the start, are, of course selling, either because of their inherent appeal or because of the skillful way in which they are brought before the consumer. Mesh hosiery is one of the best examples of liquidity in the textile field at present. Also individual trade-marked goods in other knit goods lines or in woven fabrics are moving because of creation of consumer interest. The best merchandised materials will doubtless continue to sell through this period of transition, but other lines must wait until the consumer feels the pinch which will start him replenishing his worn out or depleted stocks of textiles. This may take months unless stimulus comes from some other quarter.

of various widths and patterns may be obtained is described. *(page 49)*

Raw-Wool Easier

Raw wool remained without general movement and the uncertain feeling reported last week materialized in an easier trend. *(page 55)*

Spinners May Curtail

Worsted yarn mills are coming to a common sense conclusion to curtail or shutdown rather than cut prices any further. Buying is still scant with the weaving trades dull. *(page 53)*

Delay Fall Fabrics

Anxious to get the last ounce of business out of the current season, none too good at best, wool goods mills plan late fall openings. *(page 57)*

Knitting

Defects in Men's Half Hose

Various defects which appear in half hose in the form of holes and bunched up stitches are analyzed and remedial measures are suggested. *(page 48)*

Lightweight Underwear Gains

A trend to summerweights as against winterweights in knit underwear is indicated in figures made public by the Department of Commerce, which are based on a recent survey of a large part of the underwear industry. *(page 29)*

Constantine Starts Survey

Earl Constantine, managing director of the National Association of Hosiery and Underwear Manufacturers, has asked all members to aid a survey which aims to reveal ways and means for solving current problems. *(page 41)*

Mesh Hosiery Competitive

Hosiery manufacturers see the mesh hosiery boom as cutting into the sale of staple full-fashioned stockings this spring. *(page 58)*

Sweaters A Money-Maker

In a rather discouraging outerwear market, women's worsted sweaters seem the best money-maker at the moment; swimsuits are slow. *(page 58)*

Silk

Filature Problems

The Japanese silk growers and reelers are subject to practically the same problems as are faced by American manufacturers and it may be assumed that the reeler's product is the best that conditions allow considering increased output per worker. *(page 37)*

Silk Prices Decline

Despite talk of possible boycott, raw silk was sluggish all week, and prices dropped 15 to 25c. *(page 55)*

Yarns Show Improvement

Slightly better tone in spun and thrown silk markets. *(page 55)*

Georgettes Active

Low-priced georgettes enjoy active call; new chiffon prints accent small designs. Printed cantons revive. *(page 57)*

Silk Leaders Study Boycott

The agitation for a boycott against Japan was studied at a meeting of silk leaders in New York; plans were held in abeyance pending diplomatic developments in Orient. *(page 60)*

The Business Outlook

ALTHOUGH February showed a further sharp decline in almost all indicators of industrial and trade activity, that month may prove the most important in the whole period of depression in its contribution toward recovery. The strengthening of the banking structure has eased the domestic credit strain and March sets in with fairly hopeful signs that the acute stage of the financial crisis has been safely passed. Easing of money rates both here and abroad, like the falling temperature of a fever patient, is an encouraging symptom of convalescence. The picture in Britain particularly has brightened considerably with the strengthening of sterling and the stimulation of domestic activity under intelligent internal monetary policies and the external trade controls. Retardation of the decline in the commodity price level, fairly steady improvement in the bond market under individual investment demand, restrained speculative activity in stocks, falling off in bank suspensions and currency circulation may all be considered constructive indications of early stabilization. Building figures begin to look a little better, especially in the public construction classification. Release of automotive demand and some resumption of railroad buying are expected to supply the postponed seasonal stimulus to steel.

—The Business Week.

Mohair velvet carpets on a sponge rubber base have been introduced for automobile use. This new type of floor covering helps reduce noise, shuts out heat and cold and can be washed with soap and water or a hose turned on it, if necessary. It is cut to fit.

Basis of Westcott Patent Ruling

Lack of novelty in the idea of using dull-luster yarn for hosiery, decided Federal Judge Underwood of Atlanta, Ga., to invalidate the grenadine hosiery patent held by Westcott. *(page 60)*

Rayon

Defects in Acetate Fabrics

Improper dyeing and finishing methods or faulty construction of the gray goods are responsible for most of deficits found in acetate fabrics. Means for correction explained. *(page 24)*

Plan Rayon Curtailment

In line with slackening demand, rayon producers plan to curtail production to between 60 and 70% of capacity. *(page 55)*

Processing

Bleaching Tubular Knit Cloth

Either peroxide bleaching or alkaline boiling and chlorine bleaching is suitable for treating tubular knit cloth. With large quantities, the treatment is carried out in a kier. *(page 48)*

Affinity of Dyestuffs

Unequal affinity of the dyestuff for different portions of the knitted fabric is blamed for the development of streaks or bands on the finished goods. Possible causes of this unequal affinity are outlined. *(page 48)*

Skillful Dyeing and Finishing

Counteract Defects in Acetate Fabrics

By John Sterling

Photographs by Herbert C. Roberts

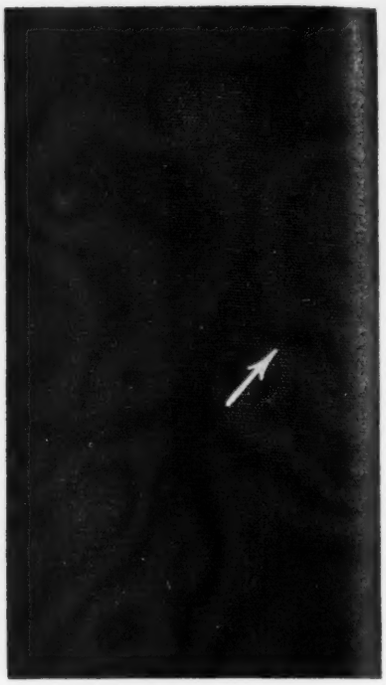


Fig. 1. Acetate fabric with shifted warp threads.

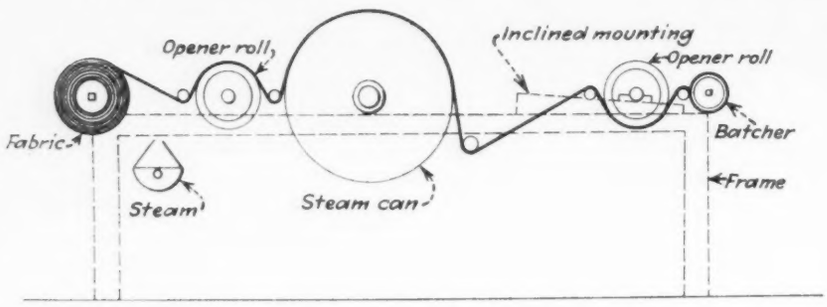


Fig. 2. Riflage useful in removing wrinkles.

DEFECTS in acetate fabrics are due chiefly to improper dyeing and finishing methods or to faulty construction of the gray goods. The dyer and finisher—if they have a thorough understanding of the physical and chemical properties of cellulose acetate—can prevent imperfections caused by incorrect methods of processing, and in many instances can counteract those due to poor fabric construction. To show how this is possible, a number of defective fabrics are illustrated, and methods of handling these goods are outlined which would have given more satisfactory results.

Creases in Dyed Taffeta

A heavy, plain-weave, acetate taffeta, dyed black, is shown in Fig. 1. Close examination will show a creased or cracked effect running warpwise of the fabric. These creases, which have persisted after the final finishing, were caused by a slippage of the warp threads along the filling threads. The goods were dyed in a winch or reel dyeing machine; and during the dyeing operation the creases and folds were so tightly pressed into the fabric that the warp was actually pulled along the filling. Unless the filling is twisted tightly enough to make it somewhat rough, there is this tendency for the warp to shift along the filling, because of the extreme smoothness of wet acetate yarns. Obviously, in a taffeta, very little twist can be tolerated if the desired appearance and handle are to be obtained.

Fabrics of the taffeta type cannot be dyed successfully in a winch or reel machine, unless the dyer is careful, handles the goods as little as possible, and gets them out of the dyehouse as rapidly as he can. Heavy shades will require from six to eight hours to scour and dye. This is not an excessive length of time; nevertheless certain precautions must be taken if the formation of creases is to be prevented.

Avoid Temperature Changes

In dyeing taffetas the first precaution is to make certain that there is no sudden change in the temperature of the dyebath from hot to cold or from cold to hot. Sudden changes of the temperature will set the creases firmly in the goods, the reason being that cellulose acetate becomes decidedly plastic at the temperature of the dyebath (158 to 167° F.) and loses a large percentage of this plasticity when subjected to lower temperatures.

Again, the dyer must see that hot, wet goods are not allowed to lie or hang on the winch or in a truck long enough for them to cool. Otherwise the weight of the goods sometimes will be sufficient to cause creases if the fabric remains wet and is piled in a wrinkled condition.

The finisher often experiences considerable trouble in removing creases which have not caused an actual shifting of the warp. If the creases are noticed immediately after dyeing, the following treatment will prove helpful: The pieces are sewed together and run through a machine known as a riflage (Fig. 2). This consists essentially of a revolving opener reel, a steam can, and a second opener reel so mounted as to bear against the batcher roll. The goods are passed through the machine and wound on a shell. As the size of the goods on the shell increases in diameter, the second opener roll slides back on ways or a track. In this manner the ten-

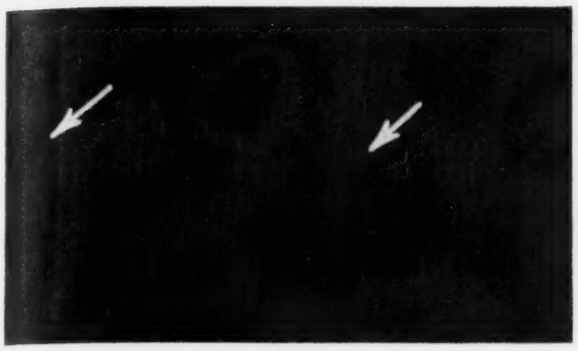


Fig. 3. Real silk and acetate crepe showing thin satin face and shifted warp in selvage due to improper finishing methods.

Fig. 4. Jacquard faille with shifted warp

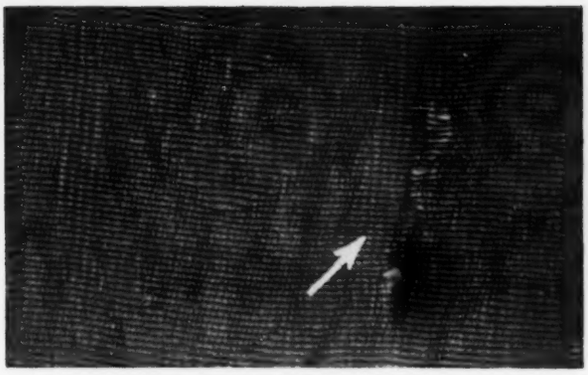


Fig. 5. Enlargement of fabric shown in Fig. 4.

stion and pressure are kept constant. Upon striking the steam can the wet goods become thoroughly warmed and softened, and the opener roll is able to remove the creases so that the goods can be shelled up free from wrinkles and folds. The fabrics should remain on the shelf for several hours, then run on to the tenter frame and dried under a moderately heavy tension. In severe cases of wrinkles and creases, it may be necessary to open and frame the goods several times before these defects are sufficiently removed.

In Fig. 3 is shown another example of goods which are not of first quality. This fabric is a satin-back crepe, made with an acetate warp and crepe silk and acetate filling. Notice particularly the shifting of the warp in the selvage and the hungry appearance of the fabric.

With goods such as these, which have been made up with an eye to economy; that is to say, where the warp has been layed out with as few a number of ends as possible, the finisher can do much towards making the fabric appear heavier than it is. These goods should be boiled off in tubs to remove the gum from the silk, taking care to use a bath no hotter than 176° F. This precaution is necessary, since a higher temperature would deluster the cellulose acetate. It should be remembered, however, that when the degumming is conducted at this low temperature, it is necessary to prolong the time over that required for an all-silk fabric of similar construction which is treated at a boil.

These fabrics are dyed on winch dyeing machines and extracted at full width on a vacuum extractor. If these goods are to finish 38½ to 39 in., they will generally be from 32 to 34 in. when they leave the dyehouse. The first operation in finishing is to run the goods through a rilage as described above. A little tension is used, in order to make the warp threads as parallel as possible, and thus enhance the satin effect.

The goods are then dried on the tenter frame, using tension on the let-off, which will further bring up the satin face. The width to which the dryer is set, should be just sufficient to prevent the fabric from sagging. After drying, the goods are wet out and dried on a net dryer. This operation sets the crepe and definitely determines the lay of the warp threads. After this second drying, the goods are tentered to the desired width, the fabric being softened somewhat with steam before the final width is reached. They are then run through a three-bowl calender which will further soften the fabric and give a flattened effect to the satin face.

Shifting of Warp Threads

The sample of jacquard faille illustrated in Fig. 4, has the same general defect found in the other fabrics mentioned above. Due to rough treatment in the dyehouse and finishing room, the warp has shifted, especially where there are long floats in the pattern. This defect can be seen better in Fig. 5, which shows the same piece of goods photographed with transmitted light, and at a fairly high magnification.

Dyers and finishers handling a variety of goods of this character will do well to sort the various patterns into lots composed of groups having the same resistance or lack of resistance to shifting of the warp. Those fabrics with heavy filling and light warps will give more trouble than those in which the filling and the warp are more nearly equal. In this type of a fabric the pattern is brought out as a satin effect and the floats are from three to five shafts in length, depending on the design and pattern. Naturally, considerable area is exposed. This particular piece, which was dyed in a winch dyeing machine, should have been dyed on a jig.

In jig dyeing practically no surface action is encountered, and the warp cannot shift. There are, however, certain types of jacquard failles which cannot be handled on a jig. An example is a fabric with stripes

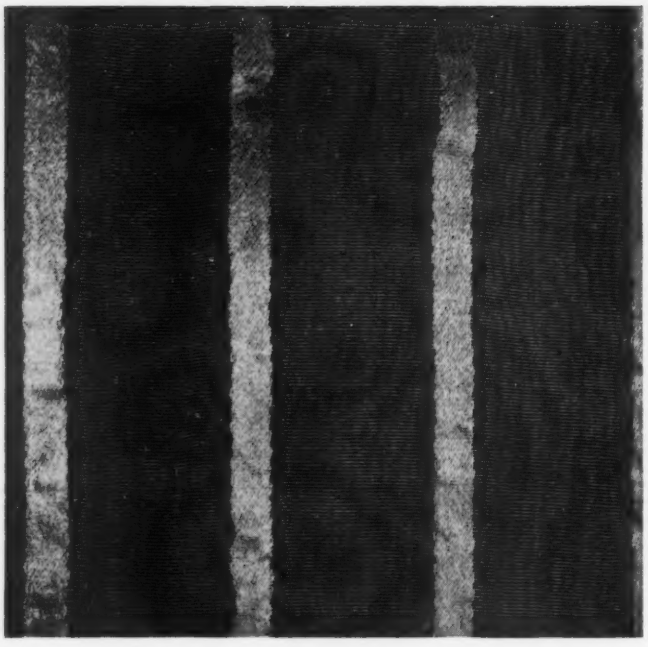


Fig. 6. Satin-stripe fabric unsuitable for jig dyeing.

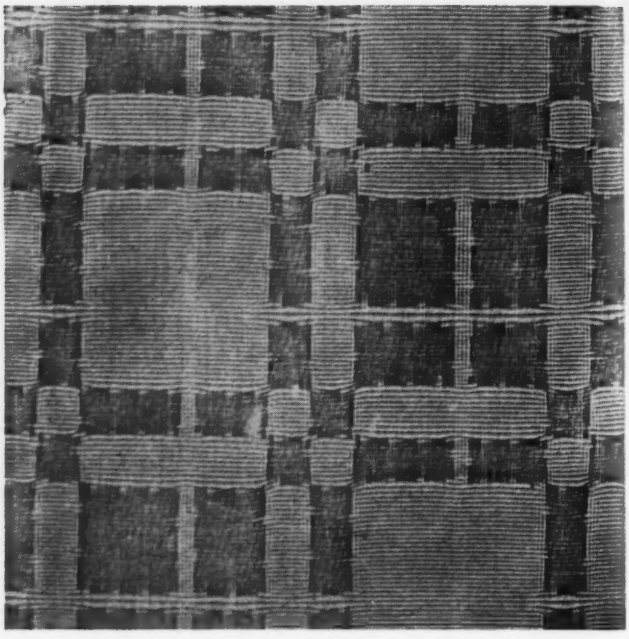


Fig. 7. All-over pattern which can be winch or jig dyed.

¼ in. wide spaced, say, 2 in. apart. If these goods were dyed on a jig, since the material is thicker where the stripes occur than in body of the fabric, the stripe would pile up and cause distortion. Fortunately these striped goods dye satisfactorily on a winch machine.

On the other hand, jacquards composed of fine lines and small figures which are not too near stripes can be dyed on the jig. In general, the floats making up these patterns are seldom over two shafts in length, and are quite firm.

In Fig. 6 is shown a fabric of the same quality as that shown in Fig. 4; that is to say, composed of the same grade of acetate yarn. The design of course, is different; there are no wavy figures, nor are there any long floats. It will be noted, however, that where the stripes occur the goods are thicker, consequently these goods should not be dyed on the jig, but can be handled on the winch or reel machine without danger of shifted warps.

Choice of Equipment

A faille type of fabric woven with a satin effect is pictured in Fig. 7. Goods of this character and pattern can be dyed in either a winch or a jig, because the design is so uniformly broken up. The chief precautions necessary are to avoid undue tension and to keep the filling square with the warp at all times. If the goods are stretched too much either in length or width, distortion of the pattern may occur. Particularly, if no allowance has been made in weaving goods of this nature, jig dyeing is apt to distort the pattern lengthways of the goods, because there is always a stretch of 2 to 3 yd. per piece. In most fabrics this is not noticeable, but if the stretch is much more than this it will become apparent.

Cellulose acetate fabrics such as those illustrated in this article and in fact other fabrics of lighter and heavier weight, are injured if kept in the dyebath too long. Long immersion in a soap bath (and most acetate fabrics are dyed from a soap bath), will cause a partial saponification of the cellulose acetate, due to the hydrolysis of the soap. Cellulose acetate will stand a lot of punishment in dyeing, providing it does not come in contact with caustic soda, but even traces of free caustic soda will in time work steadily and insidiously to break down the cellulose acetate and convert it into a weak, harsh form of cellulose.

No one has been able to explain why it is that damage to cellulose acetate due to hydrolysis is more apt to occur when the goods are dyed in a winch machine or in a silk boil-off tub than when dyed on the jig. Cases have been known where goods have been jig dyed off-and-on for four or five days without evidence of hydrolysis; but the same cannot be said for goods dyed in a winch. This means that whenever goods are to be redyed, the dyeing should proceed with all possible haste. Likewise, care must be taken to prevent any saponification, inasmuch as a slight amount of saponification, will cause a noticeable stiffing of the goods which is difficult to remove.

After one has tried several different kinds of dyeing machines, and still finds a tendency for the warp threads to shift, the goods shall be given a preliminary scouring and drying treatment. They should then be padded in a regular padder, using a mixture of sulfonated castor oil and some volatile solvent, such as hexaline, tetraline, or xylol. A satisfactory formula is 75 parts 75% sulfonated castor oil, 10 parts solvent, and 15 parts hot water. This mixture is made up as a stock solution. When the goods are ready to run through the padder, the stock solution is diluted with an equal volume of water, and a very small amount of caustic soda is added to the solution to clarify it (this had best be added a few drops at a time). When the stock solution is clear, it is ready for use.

Goods padded with this solution are squeezed well on the mangle and allowed to stand on shells for several hours. It will be found that there is less tendency for the warp threads to shift. Also the solution has a decided detergent action, and will clean the fabric and free it from marks, filling stains, and the like. This solution causes the threads to swell to a certain degree and thus tighten the weave so that there is little danger of shifting of the warp.

Cotton Industry's Policy on Night Work *Overwhelmingly Re-Affirmed*

THE cotton textile industry, by an overwhelming majority, has again demonstrated its belief in the soundness of the night work policy which went into effect a year ago. The mills now conforming to the recommendation of the Cotton-Textile Institute that night employment of women and minors be discontinued, plus those indicating that they will pursue the policy after March 1, 1932, represent over 86% of the spindles in going cotton mills in the United States including 82% of those in the night classification. The total spindles affected amount to 26,152,806. Not included in this number are approximately one million spindles in mills now closed but which subscribed to the recommendation a year ago.

The most important accessions of new support for the policy came from print cloth, narrow sheetings and carded yarn mills. Pursuance of the policy in these and other well-defined groups to the extent of 80% or more is also indicated and the recommendation is therefore successfully launched on its second year.

In making this announcement, George A. Sloan, President of the Cotton-Textile Institute, stated:

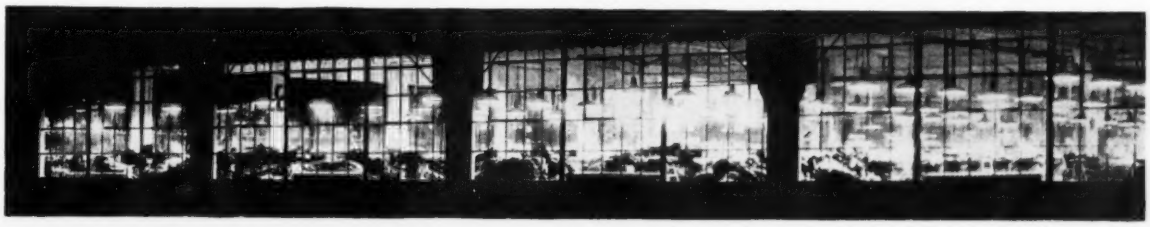
"We regard these high percentages of support for the night work recommendation as a magnificent tribute to our industry and a striking example of the determination of cotton mill executives to preserve and expand the gains so far made through constructive cooperation. During the past year there has been a pronounced tendency toward concentration of cotton mill operations, so far as possible, on the day shift with a resulting stabilizing inuence on employment for men and women alike. It is significant that during 1931 Government reports indicate a more uniform rate of cotton consumption from month to month than at any time during the past ten years.

"I am hopeful that the support for this night work recommendation will grow into universal observance. In this way our cotton mills from Maine to Texas can play an important part in the present nation-wide effort to restore confidence in business."

The question of this reform has been advocated for many years within the industry but has received its greatest impetus during the last two years. In the fall of 1928 an effort was made to amend the by-laws of the Cotton-Textile Institute by removing the restriction on its taking active part in legislative and political matters so that it could take the initiative in the effort to accomplish this reform through legislation. But the membership preferred to retain the prohibition on the Institute's taking any part respecting legislative and political matters.

In the early part of 1930, however, the plan for the Institute to propose voluntary action took definite shape following a conference with Government officials at Washington. The first outcome of this conference was the suggestion of leading mill executives to the industry to establish greater uniformity in running time for labor and machinery and to make the night shift shorter than the day shift. Important progress has been made in securing these results.

In the summer of 1930 there developed an increased conviction that night employment of women and minors be entirely eliminated and this paved the way for the present recommendation which has been observed since March 1, 1931, by a preponderant part of the mills. However, the continued effectiveness of the movement was dependent upon the pursuance of the policy, after March 1, 1932, by 80% of the spindles including a corresponding percentage of the night runners. Thus it will be seen from this week's announcement that these percentages of voluntary support have been reached and exceeded.



The Significance **of the action of the cotton textile industry in continuing to support the policy of elimination of night employment of women and minors, cannot be over-emphasized. When this policy became effective a year ago, many who were opposed to the idea ascribed the success of the movement to hysteria or mob psychology. The fact that, after a year of calm reflection—a year marked by generally unprofitable business—the industry has endorsed the policy by an even greater percentage, is an effective answer. It would seem reasonable to believe that in the not too distant future, the adherence will be 100%, instead of 86%.—*Editor.***

Textiles, Inc.,

Combed Yarn Merger, Shows Small Deficit Due to Inventory Shrinkage

A. G. Myers, president, Textiles, Inc.

TEXTILES, INC., formed last year by the merger of several combed yarn mills, showed a small operating deficit for 1931, in the statement submitted at the annual meeting of stockholders in Gastonia, Mar. 1. This loss was largely attributed to shrinkage in value of raw cotton and gray yarn on hand when the consolidation went into effect. The existing board of directors was re-elected.

The report of J. H. Separk, president of Textiles, Incorporated Sales Co., showed that sufficient forward business was on the company's books to keep all plants running from 15 to 16 weeks if specifications are received as expected. The report of R. Grady Rankin, secretary and treasurer of Textiles, Inc., was also heard at the meeting.

President Myers' Report

The report submitted by President A. G. Myers, in part, was as follows:

"Under the merger agreement the consolidation of our mills provided that the corporation should begin functioning as of Feb. 1, 1931, but it was well in the latter part of the year before actual operations under the consolidation could be realized. Therefore the economies which we had hoped to be able to effect did not begin to materialize until the latter part of the year. Under the consolidation we are operating 22 plants with a total of approximately 300,000 spindles.

"In the reorganization the various activities of our business have been departmentized with an executive officer in charge of each department. This has eliminated duplication of effort and has materially increased the efficiency of the various departments. These department heads compose the executive committee which meets daily for the purpose of passing upon all matters pertaining to the business of the company.

"Through the organization of a central purchasing department for cotton, supplies and other materials, it has been possible materially to decrease inventories at the various plants. All purchases of cotton, supplies and other materials are made on the open market on competitive prices, and any purchases of usual size are approved by the executive committee before such purchases are made.

"In the manufacturing department substantial economies have been made possible through the elimination of excess numbers of yarn at the various plants, standardization of supplies, and re-arrangement of plant machinery.

"The full benefit of these economies could not be realized under greatly curtailed operations such as we experienced during the last year. During the latter half of the year we were able to operate the mills only on an average of approximately 50% of daylight time, which, however, we have been able to step up since the first of this year to a larger extent. Beginning with the first week in January, we were operating 43.95% of daylight time. Last week our operations had gone up to 76.72% of daylight time.

"A general reduction in salaries throughout the entire organization has been put into effect. Labor costs have likewise been reduced as well as all overhead expenses. The executive salary cost is now on an exceedingly low basis.

"Savings by the manufacturing department in placing each mill as nearly as possible on one count, along with wholesale purchases of cotton, supplies, etc., will amount to a considerable sum per year, based on full time operations.

"It is felt that the textile industry will be one of the first to feel an improvement, in view of the restricted buying of cotton goods during the last several years. There is no stock on hand of consequence, and we are hopeful that the turn in business has come. Our organization is efficient in every department and we are in position to manufacture the best product at lowest costs and to avail ourselves of any improvement in the market."

The financial statements of the company were not released for publication.

The units making up Textiles, Inc., follow: Arkray Mills, Arlington Cotton Mills, Flint Mfg. Co., Gray Mfg. Co., Myrtle Mills, Mutual Cotton Mills, Seminole Cotton Mills, Victory Yarn Mills, Monarch Cotton Mills, Lockmore Cotton Mills, Helen Yarn Mills, Wymojo Yarn Mills, Myers Mills, Cora Cotton Mills, Dilling Cotton Mills, Elizabeth Mills Co., Merco Mills, Priscilla Mills, Osceola Mills, Ridge Mills, and Ragan Spinning Co.

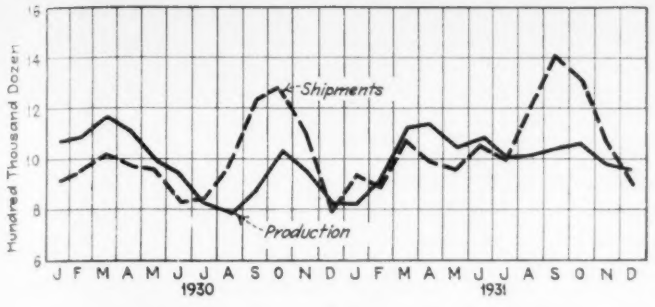


Chart showing two-year record of production and shipments of 130 knit underwear mills

Trend to Summerweight Underwear *Shown in Survey*

VARIOUS significant trends in the knitted underwear industry during the 1930-1931 period are disclosed in a series of tables just made public by the Bureau of the Census of the Department of Commerce, Washington. Production of winterweight garments showed a slight decline in 1931 as against the preceding year, while summerweights showed a rise of almost 1,000,000 dozen garments. Similar comparisons revealed a small increase in the output of men's union suits, winterweight, but a considerably greater increase in output of men's shirts and drawers.

Women's one-piece winterweight garments dropped from a total of 349,230 dozens during 1930 to 270,198 dozens in 1931, and similar declines were shown in output of women's shirts and drawers, the drop in output of drawers being particularly sharp. In the summerweight range, men's garments tend strongly toward two-piece lines. Men's union suit output in 1930 aggregated 639,361 dozens, falling to 609,054 the year following; while shirts rose from 1,508,331 dozens in 1930 to 1,877,250 in 1931; drawers practically held their own, the figures being 499,542 dozens in 1930 against 499,239 in 1931.

Women's union suits rose from 515,627 dozens in 1930 to 674,433 the following year; output of women's two-piece lines in summerweight showed approximately similar increases in 1931, with the exception of drawers where a slight decline was indicated.

Total production of all classes in 1930 was 11,634,660 dozens against 12,187,984 in the following year. Similarly new orders rose from 11,919,319 dozens in 1930 to 12,946,756 in 1931. Net shipment increase was in excess of production increase, the total shipments being 11,826,595 in 1930 against 12,796,523 in 1931.

For total output of the two years, comparative figures follow: winterweight output, 1930, 5,377,643 dozens against 5,257,332 in 1931; summerweight output, 1930, 5,280,038 dozens against 6,181,661 dozens in 1931. This may be interpreted as supporting the opinion, frequently expressed by underwear manufacturers, that consumers are steadily turning away from the heavyweight garments and toward the medium- and lightweight lines.

The statistics offered by the Bureau of the Census were based on data reported to the Bureau by 130 identical establishments which produced, in 1931, 68% of the total output of knit underwear in the United States.

Cancellations in 1931 were about 10% less than in 1930. The monthly figures on cancellations in 1931 ranged, high to low, from 21,572 doz. to 5,869, while in 1930 the range was 38,668 to 5,994. The peak of unfilled orders at end of month for the two years came in July, 1931, when the amount totaled 1,868,538 doz.; the low came in September, 1930, with 1,154,843. The unfilled orders averaged around 6 weeks production at the rate mills were operating through the period.

Knit Underwear Production, Shipments, and Orders

The following table presents statistics, by months, for 1930 and 1931, on knit underwear production shipments, and orders, based on data reported to the Bureau of the Census by 130 identical establishments. (It is estimated, according to the returns for the Biennial Census of Manufactures, that these mills produced, in 1931, approximately 68% of the total output of knit underwear in the United States.) The quantities are expressed in dozens of garments.

Year and Month	Production			New Orders	Net Shipments	Unfilled Orders End of Month
	Winter	Summer	Total (a)			
January, 1930	438,482	535,744	1,076,714	1,176,209	919,932	1,602,397
February	388,318	606,333	1,095,338	1,016,962	947,678	1,660,564
March	434,113	629,241	1,162,246	1,005,318	1,011,290	1,642,899
April	433,489	598,865	1,114,526	868,419	962,814	1,537,281
May	431,985	476,567	982,212	1,016,250	959,988	1,584,081
June	457,878	404,451	942,898	859,153	824,813	1,608,193
July	388,503	361,755	803,446	741,221	834,889	1,494,961
August	407,386	303,030	778,745	859,445	964,009	1,384,403
September	470,188	317,112	879,247	1,020,250	1,235,673	1,154,843
October	581,291	368,311	1,037,851	1,390,277	1,283,632	1,248,229
November	558,326	322,301	951,964	1,130,192	1,089,320	1,262,743
December	387,684	356,328	809,473	835,623	792,557	1,286,194
Total	5,377,643	5,280,038	11,634,660	11,919,319	11,826,595	.....
January, 1931	294,191	464,984	807,361	912,163	942,557	1,243,040
February	279,812	575,183	909,175	971,600	877,490	1,323,055
March	380,706	670,390	1,119,810	1,289,106	1,078,524	1,522,907
April	365,543	688,834	1,130,592	1,054,732	994,568	1,573,593
May	324,500	654,234	1,053,243	1,107,062	966,478	1,698,322
June	383,715	634,171	1,088,452	1,169,229	1,050,218	1,804,946
July	423,286	543,376	1,014,873	1,077,700	1,008,239	1,868,538
August	508,024	449,758	1,017,466	966,742	1,194,876	1,631,421
September	589,363	393,784	1,044,638	991,325	1,407,740	1,203,416
October	652,208	348,536	1,063,844	1,313,842	1,314,850	1,180,836
November	582,826	334,731	984,608	1,178,154	1,075,876	1,263,928
December	473,158	423,680	953,922	915,101	885,107	1,273,341
Total	5,257,332	6,181,661	12,187,984	12,946,756	12,796,523	.....

ORDERS AND SHIPMENTS

	1930	1931
Unfilled orders on hand, first of year	1,384,788	1,286,194
New orders received during year	11,919,319	12,946,756
Totals	13,304,107	14,232,950
Shipments during year	11,826,595	12,796,523
Cancellations during year	191,318	163,086
Totals	12,017,913	12,959,609
Unfilled orders on hand, end of year	1,286,194	1,273,341

(a) Including winter, summer and unclassified.

Satisfactory Procedure for Merino Blending

By Ralph T. Bentley

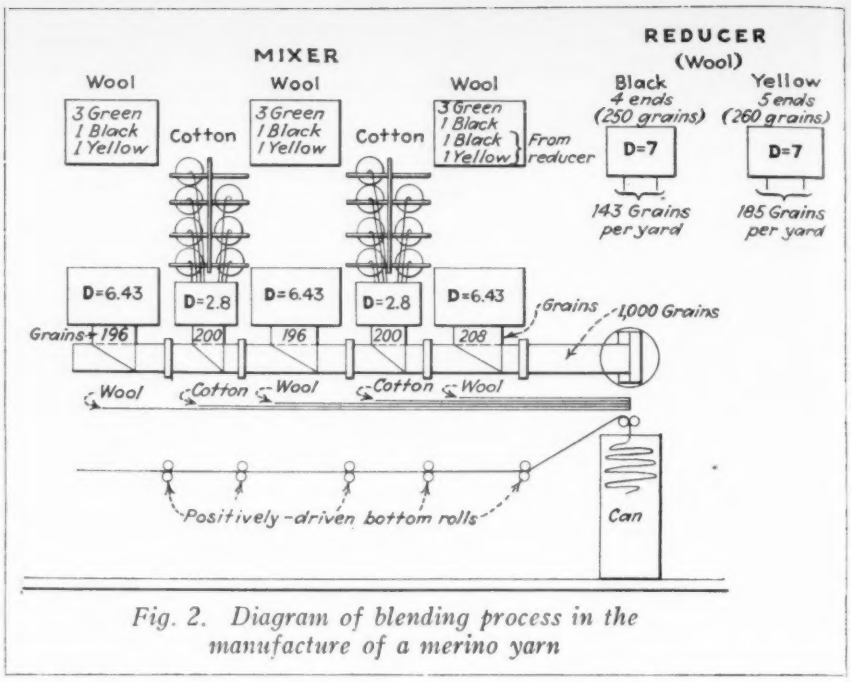


Fig. 2. Diagram of blending process in the manufacture of a merino yarn

◆ *While the manufacture of a cotton-and-wool mixed yarn presents no insurmountable obstacles there are certain vital points which must be clearly understood by the blender. The accompanying article offers helpful suggestions for calculations and procedure in preparing and making merino blends on the French worsted system.*

YARNS produced from cotton-and-wool mixtures are usually processed on the French system of worsted drawing because this system, using both intersecting gilling and porcupine drawing, or rotary drawing, as it is sometimes called, provides adequate control of the high percentage of short fibers.

To aid the control of the short fiber, a special machine called a mixer or blender is in general use. This performs two very useful and necessary functions: (1) It blends the wool and the cotton. (2) It combines the wool and the cotton in the form of layers arranged as illustrated in Fig. 1.

Fig. 1. A, B, and C are layers of wool. D and E are layers of cotton

Some system of blending must be followed which will ensure an intimate mixture in the resultant yarn. Before explaining the method of blending, a brief description of the blender will make clear why the method is necessary.

The blender really consists of five separate machines combined with a special drawing-off mechanism which forms one end from the four or five separate deliveries. See diagram in Fig. 2. There are three intersecting gill boxes and two cotton drawing boxes, both cotton boxes having the same draft and all the gill boxes using similar draft. The draft used for the cotton ranges from two to three, and selection of the draft is controlled by the appearance of the web delivered, which must be even. The wool draft is controlled by the average staple. Noble-combed tops will generally stand a higher draft than French-combed tops. Avoid excessive drafts, not only on the mixer, but also in every succeeding operation.

In making the blend this procedure is suggested:

(1) Determine the average weight in grains of both the cotton and wool slivers by weighing at least five 5-yd. lengths of each. The weight per yard of each color must be obtained. (2) Determine the drafts to use. (3) Calculate the doublings and actual draft necessary to obtain the required percentage of cotton at the mixer. (4) Select the highest percentage of wool, and determine the draft and doublings which enable all this color to be used directly behind the mixer.

The draft used on the gill boxes determines the number of ends of each of the remaining colors of wool which can be used without any preliminary gilling. Generally some small percentages, called remnants, remain which must be prepared on a separate gill box so that an end of the required weight may be obtained for the mixer.

The following sample calculation will make the explanation clear:

Blend	Average Weight
40% brown cotton	80 grains per yd.
35% green wool	250 grains per yd.
15% black wool	260 grains per yd.
10% yellow wool	250 grains per yd.

Cotton draft, 2 to 3
Wool draft, 7
Final end from mixer must be 1,000 grains per yard.

Calculation

40% cotton: 40% of 1,000 = 400 grains of cotton required in the final end.

$$\frac{400 \times 3}{80} = 15 \text{ ends — use 14,7 ends behind each box.}$$

$$\frac{14 \times 80}{400} = 2.8 \text{ draft on both cotton boxes}$$

35% Green Wool: 35% of 1,000 = 350 grains of green wool required in the final end.

$\frac{350 \times 7}{250} = 9.8$ ends — use 9

$\frac{9 \times 250}{350} = 6.43$ draft on all three gill boxes

10% Yellow Wool: 10% of 1,000 = 100 grains of yellow wool in the final end.

$100 \times 6.43 = 643$ grains of yellow wool behind mixer

$\frac{643}{250} = 2$ ends + 143 grains from preparer or reducer.

15% Black Wool: 15% of 1,000 = 150 grains of black wool in the final end.

$150 \times 6.43 = 965$ grains of black wool behind mixer.

$\frac{965}{260} = 3$ ends + 185 grains from preparer.

Reducer:

It is necessary to prepare one end of yellow weighing 143 grains per yard, and one end of black weighing 185 grains per yard. The reducer is an intersecting gillbox.

Yellow: $\frac{143 \times 7}{250} = \frac{1001}{250} = 4$ ends — use 4 ends.

draft of 7, for 143 grains per yd. delivery.

Black: $\frac{185 \times 7}{260} = \frac{1295}{260} = 5$ ends (practically) — use 5 ends,

draft of 7, for 185 grains per yd. delivery.

Note:—The fact that the draft on the reducer equals seven in both instances is merely a coincidence.

If any difficulty is experienced in obtaining a perfect distribution of one or more colors, gill the color or colors once to open the sliver before putting it behind the mixer.

The data obtained from these calculations are arranged in the accompanying table.

Reducer

Color	Ends	Draft	Weight of End Delivered, Grains per Yard
Yellow	4	7	143
Black	5	7	185

Mixer

Color	Material	Ends	Draft	Weight in Grains per Yd. Feed	Weight in Grains per Yd. Delivery
Brown	Cotton	14	2.8	80	400
Green	Wool	9	6.43	250	350
Yellow	Wool	2	6.43	250	100
Yellow	Wool	1	6.43	143	
Black	Wool	3	6.43	260	...
Black	Wool	1	6.43	185	150
Weight of Final End (Grains per Yd.)					1,000

In processing, the cotton produces more waste than the wool. Allow 1% to 1½% on the first batch, and test the yarn to determine the cotton content. Reduce the cotton draft, adding 10 to 15 grains per yard to the weight of the final end.

Although the use of the mixer is generally recommended, cotton wool mixtures can be made without the aid of this machine. Some mills provide special guides behind the gillbox, feeding the cotton slivers between two layers of wool. The gill box may be either an intersecting or ordinary fine gill box.

One mill has produced heather mixture cotton-and-wool yarns using as the mixer the first drawing box after the gills. When the mixer is used, it is possible to use only one or two ends on the first operation in drawing. An end weighing 1,000 grains per yard is equal to 11.43 ounces for 5 yd.

W. A. Erwin, Active in Industry 50 Years, Dies

WILLIAM ALLEN ERWIN, president, the Erwin Cotton Mills Co., operating five plants at West Durham, Erwin and Cooleemee, N. C., died at his home in West Durham, Feb. 28 following an illness of more than a year. Mr. Erwin was 75 years of age and had been engaged in textile manufacturing since 1882 or about 50 years. He was born at Bellevue, the family plantation, near Morganton, N. C., July 15, 1856, the son of Col. Joseph J. Erwin and Elvira J. Holt Erwin.

His first business experience was as a salesman at a general store in Burlington, N. C., and later he was a railroad clerk and still later operated a general store in Burlington. In 1882 Mr. Erwin joined the E. M. Holt Plaid Mills, of Burlington, as secretary and treasurer. He served for approximately 11 years in this capacity, under the guidance of L. B. and L. S. Holt, two successful pioneers in the southern industry. In 1893 Mr. Erwin moved to Durham, N. C., and organized the Erwin Cotton Mills Co., with the cooperation of the late B. N. Duke. This company expanded until it now operates four spinning and weaving plants with combined spindleage of 197,700, and a bleachery.

W. A. Erwin, from picture taken during his presidency of the A.C.M.A.

Mr. Erwin had other extensive textile mill interests, serving as president of the Durham Cotton Mfg. Co., the Pearl Cotton Mills, both of East Durham, N. C., the Oxford (N. C.) Cotton Mills, and the Locke Cotton Mills Co., Concord, N. C. He resigned as president of the Alpine Cotton Mills, Morganton, N. C., at the last annual meeting of that company. He was also president of the Erwin Yarn Co., Inc., of Philadelphia, Pa., and the Bank of Harnett, at Erwin. He was a pioneer in introduction of modern conveniences for employees and was always interested in the welfare of the people in his mill communities. He supported several hospitals and churches. He founded three villages which have grown to be important towns, West Durham, Erwin (formerly Duke) and Cooleemee.

He served as president of American Cotton Mens Association from 1912 to 1914. He is survived by his widow and three daughters: Mrs. Hamilton C. Jones, Mrs. Jack W. Glenn, and Mrs. Hargrove Bellamy. His only son, W. A. Erwin, Jr., died last June.

Funeral services were held Monday afternoon at St. Philip's Episcopal Church, Durham, N. C.

Research Brings New Products and Stability

to Russell Mfg. Co.

◆

Everyone has often heard the sad story, "it was an old mill built way back in the '90s and it couldn't compete with modern mills so it had to liquidate." It is always refreshing, therefore, to find concerns far older in years which retain the vigor and forward outlook of youth

◆

RATHER than sit back complacently and live over its 98 years of successful growth, the Russell Mfg. Co., Middletown, Conn., prefers to look forward to the next century. In addition to guarding against the rheumatic effects of age by modern management methods, more money has been spent in research during the last two years than in any comparable period, and even further expansion along this line is comtemplated. The basic philosophy of the concern seems to be that the potentialities for profit in good times are large, and that nothing should be done to impair these potentialities during the present storm. Naturally, the preservation of such prospects has included the adoption of sound principles of navigation so that the ship will not be wrecked during the bad weather.

The term "research" still awes some people. They vision complicated laboratories with technicians who potter around—at great expense—until some marvel is stumbled upon. It seems remote from every-day business. Research, however, biological or business, has some definite, useful endpoint in view at all times. It is true that important discoveries are stumbled upon, but they are the freaks. Research development, as carried on by the Russell Mfg. Co., is hard-headed business.

Everyone is familiar with the rapid increase in the speed of passenger cars and, perhaps even more important, the speed of trucks. In the old days, nearly anything that could be squeezed between the brake band and drum was considered a brake lining, but modern speed called for something more. If Russell had sat back and continued to make the old brake linings they would have no business in this line today. It was absolutely necessary to strive to keep at least abreast of others in the field and to be a little ahead when possible. Research to develop a better product was the answer, and the forward strides which have been made during the last two years are remarkable. Anyone who will compare the distance it takes to stop a freight car with the distance required to stop a truck will realize how far automotive braking has surpassed braking in the older transportation field.

Sales problems often bring research problems. Some years ago a large amount of elastic narrow fabric was sold in stores. Everyone is familiar with the rolls of half or quarter inch web, mostly in black, which once adorned every notion counter. Changes in the styles of women's clothes practically killed this business and, as a result, Russell had to change over into making products which would fit the new styles. So far this was a merchandising problem, but research entered the picture when an outlet was sought in elastic webbing for pajama tops. The ordinary rubber thread does not stand washing very well; research developed a rubber thread that would, and now the Russell company is at work on a thread that will withstand dry cleaning.

Market Analysis Parallels Research

Closely allied to laboratory research is the appraisal of market trends and the development of new products. The company keeps in close touch with new styles and colors so that product changes can be made simultaneously with changes in demand, rather than after. Fashion may seem rather remote from the production of narrow fabrics; but if not watched, the company would find itself in the position of producing unwanted merchandise which would have to be sold at a sacrifice, if it could be sold at all. In addition to any data the sales force may pick up, a representative of the mill visits New York at intervals for the specific purpose of gathering information on styles and colors. Attractive packaging is another item which is given close attention.

Both the sales and manufacturing departments are on the alert for possible new products. Such products are tested on the selling end before large expenditures for equipment are made. The procedure in the automotive division, for example, is to make the new product by more or less crude methods at first. If demand grows sufficiently, modern equipment is gradually substituted until it is sufficient to take care of the business.

Production Must Tie In with Merchandising

Merchandising which is geared to the rapidity of change in modern business, which utilizes research to better old products and create new ones, which anticipates changes in demand, would stagger under a heavy burden if the management of production were not also modern.

The Russell Mfg. Co. has developed inventory and production control to a high degree of efficiency, the two going along together. When hand-to-mouth buying put such tremendous pressure on deliveries, the first result in any concern was to build up the inventory. Even so, it was often found that wanted merchandise was not available. Russell found that a large inventory was expensive and still not always adequate. The situation was met by installing inventory control. Demand for the various items is gaged, with seasonal and general business variations taken into account, the rate of turn-

over established, and the inventory maintained at a figure which will take care of demand without being excessive.

Despite the fact that control has made it possible to cut the inventory considerably, the efficiency of the system is indicated by the fact that over 98% of the orders received each morning in the automotive division are shipped the same day. While the same record has not been made by the webbing division, up to the present, it is rapidly being approached as the plans are worked out.

Inventory control, naturally, would not be possible without production control. Production is geared to keep the inventory at the proper level and, at the same time, to provide a uniform rate of manufacture in so far as possible. Peaks and valleys which would result from the lack of a far-sighted policy with respect to market and inventory are thus avoided.

Typical advertisement to the distributing trade of the garter produced by Russell Mfg. Co.

ARE YOU MERCHANDIZING THESE SMALL ITEMS TO BEST ADVANTAGE ?
THE
RUSCO COMPLETE LINE
PLAN DESERVES THE CONSIDERATION OF EVERY MODERN MERCHANT!
RUSCO PRODUCTS

Advertisement showing complete line of Rusco elastic products.

Cover of booklet describing Rusco brake-lining.

As a constant check on the state of affairs, the accounting system is such that figures are readily available. At the monthly meeting of the board of directors a detailed statement is presented which can be analyzed to show week to week, and almost day to day, changes. Actual physical inventory is taken only once each year, as it was found that the running inventory is so accurate that more frequent checking is unnecessary. The availability of accurate data, replacing general surmises and hunches, has proven of great value in keeping policies, through flexible control, in step with immediate developments.

Personnel as an Asset

Not the least interesting feature of the Russell Mfg. Co. is the attitude toward the personnel of the organization. T. M. Russell, president of the company, likes to repeat the remark credited to Andrew Carnegie, when the latter was at the height of his power, that you could take away all his steel plants and equipment, but he would be back on top within a year if you left him his organization. Mr. Russell admits smilingly that perhaps Carnegie was exaggerating a bit, but he also says that his company regards its organization as a vital asset to be placed with cash and accounts receivable on the debit side of a comprehensive balance sheet.

Applied to the present situation this viewpoint means that no general cuts have been made; only necessary individual adjustments and the elimination of deadwood. Carried down into the plant it means that employment has been rotated during slack times. The asset of an efficient organization is thus preserved as one of the potentialities that will be cashed in when business is better.

Paradoxically enough a certain sense of calmness hangs over the many activities of the Russell Mfg. Co. Undoubtedly the calm would not be there were it not for the underlying vitality. This calmness, incidentally, is evident in the acceptance of the fact that business is slow, and that cutting prices in an endeavor to secure more than a just share leads nowhere but to ruin.

Mr. Russell sums up the situation when he says:

"We know that we have gone through a battle during the last two years and we know that the end is not yet, but we are all working hard and, I think, intelligently. We are looking toward the future."

Garage Layout
Influences Trucking Costs

By Morris A. Hall

GARAGE layout, since it has a huge influence on all trucking costs, should receive careful thought. Among the factors to be considered are number of cars to be housed, size of trucks, and shape of lot. Likewise, the necessity for adequate space for washing, repairs, and spare parts must not be overlooked.

Generally speaking, simple housing of trucks calls for 80 sq.ft. of floor space for each vehicle. The average truck is approximately 6 ft. wide and not more than 15 ft. long. Only the largest of trucks are wider than this, while many are narrower. Similarly, very few are longer, 17 ft. overall being the maximum. Therefore 80 to 90 sq.ft. is a safe figure to use, although the actual determining factor is the space into which the truck can be maneuvered conveniently. For the large trucks this varies with different makes and types up to a width of 6 ft. 9 in. or 7 ft.

Total Floor Area

Length varies largely according to carrying capacity. The average 3-ton truck will have a wheelbase around 150 in., and an overall length somewhere between 15 and 17 ft. The larger 3½-, 4-, and 5-ton trucks may have a few inches more of wheelbase and a greater minimum length, but no greater maximum; let us say, 155- to 160-in. wheelbase, 16 to 17 ft. overall length. Floor space allotted to these trucks must exceed their actual sizes; consequently 3-ton trucks need 6 ft. 9 in. x 16 ft.; 4-ton, 7x17; and 5-ton or heavier, 7x18. This means from 110 to 125 sq.ft. for each truck.

The present size of the fleet, plus normal additions for the next few years (say five) figured at the areas given above according to the sizes of the trucks, plus space needed for work, plus executive or control space, fixes the total size. The usual unit of design is the so-called "parking section," two rows of trucks and an aisle between. We shall assume a present and near-future ownership of six trucks, or some multiple of this, as a basis. The aisle or driving space should be wider than the average truck because some trucks will project, and clearance is needed for safety's sake. If we assume this aisle to be 3 ft. wider than the trucks, 3-ton trucks will require 9 ft. 9 in. Thus the unit works out to 41 ft. 9 in. wide, and for three trucks deep, 20 ft. 3 in., or in round figures, 42x21 ft.

Ownership of six trucks calls, therefore, for 21x42 for housing alone, this including a central driveway or aisle for entering and leaving. If the mill does its own washing, polishing, and greasing, space is required the equivalent of the biggest truck plus room to work all around it. That is, an additional space is needed approximately 12x22 ft.

Attitude Toward Repairs

When the mill handles all its own deliveries—including perhaps the trucking of all its raw and semi-finished materials to and from the railroad—and keeps all its trucks in first-class shape all the time, adequate repair space, storage room for repair and spare parts, a service car or wrecker, and other items will all add to the necessary floor space.

Normally the service car will add one truck space. In a six-car layout, a service car or truck for six working vehicles is too high, one in twelve or eighteen should be adequate. One North Carolina mill has only 2 for 32 trucks, a ratio of 1 to 16. Repairs, with space for mechanics' work benches, etc., call for between 20 and 33⅓% of the truck space. On a 20% basis our 110-ft. unit per truck needs to be increased to 132; on 33⅓%, to 147. And the larger 5-ton space of 125 sq.ft. goes to 150 or 167.

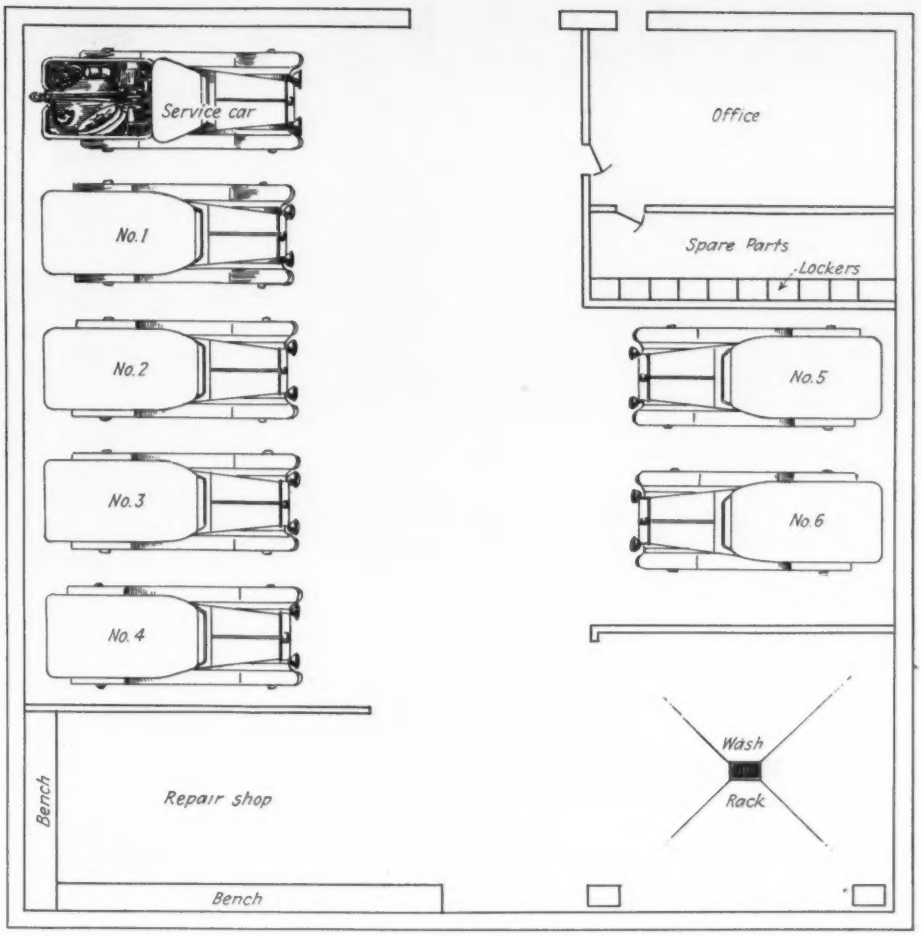
Storage for repair parts and spares (extra tires, springs, and other parts), with office or desk space, will run about the same, 20 to 33⅓% of the total space. Thus, our six-truck unit becomes as follows: Housing, 882 sq.ft. (assuming all 3 ton trucks); wash rack, greasing, etc., 231 sq.ft.; service car or wrecker, 100 sq.ft.; repair space, parts, tools, 200 minimum, 300 maximum; spares, parts, office, records, and space

not usable, 200 minimum, 250 maximum; total space needed for six 3-ton trucks, 1,613 to 1,763 sq.ft.

Location and arrangement of the wash rack, repair shop, workbenches, service car, spare-parts stock, office, records, etc., depend on the nature and extent of the work, also on the available land, buildings, methods of operating transportation system, and other factors.

Square or Rectangular

If we assume that the garage can be arranged without considering other factors than the best and quickest truck service, it is desirable to have the office with the spare parts at the front and on one side, service car at the front on the other side, unit of three cars on each side directly back of these, wash rack and repair shop side by side across the rear. This arrangement works out to 42x42 ft. Into it returning cars would proceed straight to the back, to be left for washing, polishing, or greasing; to the right for adjustments or repairs. When serviced, the trucks would be driven forward to their normal spaces, facing the aisle or driveway, ready to be driven out.



Suggested layout for a garage accommodating a fleet of six trucks together with service facilities

Office Location

The office location at the front is necessary to check cars as they come in or go out, and to permit general supervision of the garage. An office man, shop mechanic, or washer may drive the service car, and it stands convenient for all three. This layout is increased or extended for more trucks simply by making it deeper, another "parking unit" space for six trucks being added between the present truck space and wash rack, the latter with the repair shop being pushed back the additional 21 ft. and slightly increased in size at the same time in order to give adequate room for repairing the augmented fleet.

Odd Shapes Cost More

If a long narrow lot is the only available location, the garage would have to be fitted to that, all units being along one side of a full-length aisle. This arrangement requires a greater floor space because of the additional aisle length past the wash rack into the repair space.

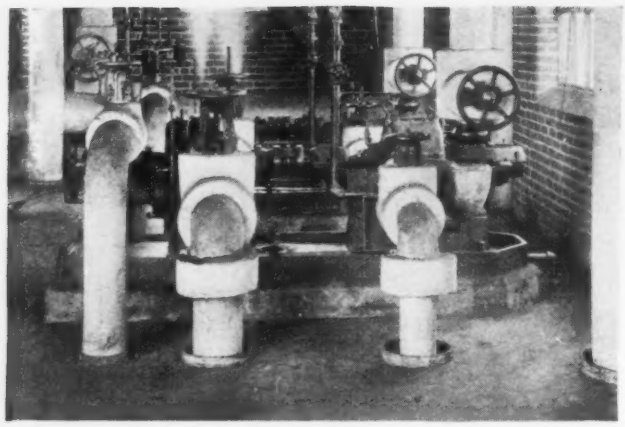
With an inside height of 12 ft. and an outside of 14, the square layout would contain from 22,400 to 25,000 cu.ft., while the long narrow shape would have approximately 30,000 cu.ft. At 80c. a cubic foot the former would cost $18,000 to $20,000 and the latter $24,000. Thus, the first cost is considerable greater.

Repair parts would be about 70 ft. from the shop mechanics, instead of 20. Therefore a man wanting parts would go 140 ft. instead of 40. Multiplied by many men, many parts, many days, this would run into a considerable time and effort. From the street to the wash rack would be 70 ft., instead of 27; from the street to the repair shop would be 80-odd instead of 27, and so all down the line of work. The long narrow shape would penalize the entire transportation organization on each and every job done on or for the trucks in the company's fleet. For these reasons odd shapes should be avoided whenever this is possible.

When circumstances force an odd-shaped building—such as triangular, different widths front and rear, one curved frontage, an ell shape, or long and narrow—the best plan is to have the garage fill the plot, and then to arrange the interior to approximately the ideal, laying out departments or divisions so that mechanics travel minimum distances on all necessary errands. The layout should be so planned that work comes in at one end or corner, flows from there toward the exit in a natural way.

Handling Repairs

Actual truck repairs, adjustments, air supply, oiling, washing, etc., should follow one another logically, so that the truck as it is worked on in these operations moves continuously toward its final parking space with no doubling back to waste time, money, and effort. The ideal layout eliminates all waste motion and thus keeps trucking costs at a minimum.



Selection of Power Plant Equipment *Requires Careful Study*

By Waldo Hutchinson

IN the selection of power-plant equipment it is not wise to jump at conclusions. A study of the economics of a situation often discloses hidden factors which are not apparent on the surface. An excellent example illustrating the necessity of considering a piece of equipment as a complete unit is furnished by a recent investigation made by the writer into the respective merits of two different pumps for a specific duty. The study disclosed the fact that in this particular case it was more economical to purchase a pump guaranteed for 81% efficiency rather than one guaranteed for 85%.

A circulating water pump was required for supplying a condenser with 18,000 gal. per min. against a total external head of 17 ft. of water. Bids were received from several manufacturers; and after some consideration, two proposals which appeared more attractive than the rest were selected for more careful study.

One of these pumps was guaranteed under the required conditions for 81% efficiency and operated at 390 r.p.m., while the other was guaranteed for 85% efficiency and operated at 345 r.p.m.; the difference in quoted prices being $435 in favor of the lower efficiency pump. The required horsepower was 95.5 in the first case and 91 in the second, and with a horsepower-year being valued at $40, the second pump appeared to be the better buy.

Horsepower saving of second pump over first = 95.5 — 91.0 = 4.5.

Annual value of horsepower saved = 4.5 × 40 = $180.

Annual saving capitalized at 13.5% = 180 ÷ 0.135 = $1334.

From these figures, it appears that the more efficient pump was worth $1334 more than the pump of lower efficiency: but no consideration has yet been taken of the cost and efficiency of the motors required to drive the pumps.

In view of the character of the service required of circulating water pumps, a 125-hp. motor was decided upon. For speeds of 390 and 345 r.p.m., there is not only a difference in price of $200, but a difference in efficiency of about 2½% throughout the operating range, the lower speed motor being both more expensive and less efficient. Evaluating this 2½%, the capitalized loss was found to be 0.025 × 91 × $40 ÷ 0.135 = $674.

Thus, the net capitalized value of the saving due to the higher efficiency of the pump and the loss due to increased motor cost and decreased motor efficiency was $1334 — $200 — $674 = $460. The more efficient pump was quoted $435 higher than the less efficient, so that it still retained an advantage of $460 — $435 = $25, which was so slight as to be practically negligible.

As the two proposals appeared then to be of about equal merit, further considerations were sought for to effect a decision. Two points came to mind, the first of which was the axiom in power-plant work that where two propositions are practically equal on an evaluated basis, that one should be selected which requires the smaller initial investment. The second point involves the guaranteed pump efficiencies and can be determined only from experience. The guarantee of 81% efficiency for the higher speed pump appeared to be somewhat more conservative than the 85% guarantee for the slower pump. In other words, it appeared more likely that the lower efficiency pump would exceed its guarantee on test by a greater margin than the higher efficiency pump. Both of the final considerations, therefore, were favorable to the lower efficiency pump, so this was purchased. Subsequent tests showed an efficiency of 83%, or 2% above guarantee, which seemed amply to justify the choice.

Two factors used in this discussion may need explaining. These are the value of a horsepower year, taken in this case as $40, and the factor used in calculating the capitalized value of the annual saving or loss, taken in this case as 13.5%. The first factor is based upon the assumption that the average cost of generating a kilowatt-hour is 6 mills, including the fixed charges on the station.

0.006 × 8760 × 746 ÷ 1000 = $39.20 or $40 approximately.

As to the second factor, 13.5% is the rate of total fixed charges, including 6% for interest on investment, 5% for depreciation, and 2½% for taxes and insurance. If 5% cent of the original investment is set aside each year, and interest on this sum is compounded annually at 6%, an amount equal to the original investment will be accumulated in about 13½ yr. Use of the factor 13.5 for the rate of fixed charges is today finding much favor among power-plant engineers.

Silk Reelers *Are Supplying Best Product Conditions Allow*

By H. A. Mereness

THE general problems facing the Japanese growers and reelers of silk are similar to the problems faced by the American farmers and manufacturers; i.e., overproduction, low prices, lack of profit due to ruinous competition, hand to mouth buying, and "shoestring" financing tending to instability. As between the grower and the reeler, the lot of the cocoon producer is perhaps the better, for in many places the land is suitable for nothing except the growing of mulberry trees; and the labor involved is only that furnished by himself and his immediate family, who, if not working at the raising of silk worms, would likely be doing nothing at that particular season of the year.

The problem facing the filature owner is no different from ours, as far as maintaining an overhead commensurate with the value of the goods produced is concerned. Over a period of years raw silk sold in the New York market for around $6.00 per pound. Compare this with the present price of say $2.50 per pound. No decrease in the overhead proportional to the fall in prices has been possible, so increased production per unit has been the only avenue of escape.

Concomitant with this fall in prices we have witnessed a very marked deterioration in the quality of the finished product, due to the increased production per worker. Evenness has suffered; and along with it, a defect has arisen which was not anticipated,—a great increase in the amount of large waste. Defects in evenness are directly due to the increased speed in reeling or the use of more threads per basin, each meaning an increase in unit production. More production through the re-reeling has brought an increased amount of fly waste from the floor and air of the re-reeling room. In order to gain speed, the apertures in the slug-catchers have undoubtedly been enlarged, which has increased the amount of large slugs. Increased production through the inspection department in the filature has meant more imperfect silk being passed, and so it goes.

Abstract of paper presented at National Silk Convention, Paterson, N. J.

The filature owner's first task is in connection with the purchase of his raw stock. He must obtain a sufficient quantity of cocoons to assure him a steady run of filature for the whole season; that is, until the next crop is ready. This means that he must purchase, and within a very limited space of time, his raw product at the prices that are then current. This you realize is normally a big gamble, and his only assurance that he will not lose heavily comes through his being able to cover his purchases by selling in the Yokohama or Kobe Bourse an equivalent amount of silk futures. If he fails to purchase a sufficient amount for his needs, he must perforce go into the market to make up his deficiency; but this may not be so simple as it sounds, since he must be able to buy, not just cocoons, but that particular kind of cocoon which he is using. The silks produced in the different parts of Japan are quite different in nature and cannot be indiscriminately mixed. Moreover, silk varies from crop to crop and from year to year. Even from cocoon to cocoon the difference is striking.

In one respect the filature owner is in a rather difficult position with respect to his labor. He has to board and lodge his girls, many of whom come from homes miles away, so to curtail production by shutting down becomes a serious problem for him. Many of his operators will be lost to him should he shut down.

You all know, of course, that a cocoon fiber as spun by the worm cannot be even. Not only does it vary from cocoon to cocoon, but even within the single cocoon itself. A considerable portion of the beginning and end of each single fiber is smaller than the bulk of the fiber in between. Consider for a moment that the reeling girl has to keep up an average of five three-denier fibers and at least two threads to the basin. Actually she may have anywhere from four to seven cocoons running, depending upon whether the silk is coming from the beginning, middle, or end of the cocoon fiber. It takes an optimist to imagine that a girl can produce, under such conditions, a 15-denier thread. That she actually does so is certainly a high tribute to her skill.

In order to make it at all possible for the reeler to produce a product that manufacturers will accept, the cocoons must be hand sorted—almost one by one—into uniform lots; and each lot must be so gaged that the requisite number of fibers will produce a finished thread which does not vary more than a few tenths of a denier from the specified size. Individual fibers may size from a minimum of 1.1 deniers to a maximum of 4.1 deniers. Consider then the importance of selection; five of the large fibers would give you a 20.5-denier skein, while five of the smaller would produce a 5.5-denier thread.

Even under the most favorable conditions it is not humanly possible to make a perfect skein. A seriplane reading of 85%, for instance, does not mean that all of the silk examined passed specification. That is an average.

The American manufacturer is perfectly safe in assuming that the Japanese reeler is giving him the best product that conditions in the markets of materials and labor allow. With competition between reelers so keen, it cannot well be otherwise.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Starting the Boy in the Mill

Editor, Overseers' Round-Table:

I AM of the opinion that if I had a boy who was of age to enter the mill, I certainly would give him the advantage of my experience. A young man entering the mill surely needs the fatherly teachings that his own father can give him and it breeds into him self-confidence and a quicker grasp of details so essential in later years.

A father who gives his son an opportunity and a help to fight his way for a better future and a better position is only doing the right thing towards his boy, and the young man who is so fortunate today in having such a big help should not overlook the opportunity and strive to make himself a success.

There are persons who think that an executive who gives his son a chance to learn the business under his own supervision, is not being fair toward the rest of his organization, but surely, if this executive does not lack moral courage, and considering all other things equal, it would be far more practical to help his own son than a perfect stranger.

HENRY F. HORN.

Starting and Stopping Time

Editor, Overseers' Round-Table:

As ALL operatives on time rate basis are paid from official starting to official stopping time they should work the full time. A hard and fast rule for starting and stopping with the whistle should be made and kept.

When special privileges are given in this connection one always finds them being abused. On the other hand, what is more beneficial to the general plant morale than witnessing an orderly lot of workers starting and stopping their machines on time?

This ruling may appear rather unjust to the worker who is engaged on more or less dirty work that requires extra time for cleaning up before leaving the mill. I have proven by experience that it is much the better policy to allow this particular operator an extra for such work, rather than to allow him a few minutes for cleaning up before stopping time. The extra allowance for this work can readily be taken care of by a special time card, whether the operator is employed on dirty work, full or part time.

"INTERESTED"

Editor, Overseers' Round-Table:

I CERTAINLY believe that the employees should be required to be on the job ready to start work when the whistle blows, and stay with it until the whistle blows at stopping time. If they are allowed to just be in the plant then it will take some quite a bit longer to change clothes and start

How to Handle Machinery

"QUITE some time ago," Superintendent Chase said as the meeting opened, "we discussed the problem of how to deal with the workers when the mill was on short time. As I pointed out then, there is also an executive problem in this connection and this is what I'd like to have you talk over today. To give a definite problem, let us suppose that there is only enough work to run the mill at 50% of production. Do you think it is best to run full for three days, and then shut down for three days, or run half the machinery six days?"

"I," said Pete, "am very much in favor of running half the machinery all week. Suppose that an order comes in that requires quick delivery. If you are only running three days it means that you either have to put a lot of machines on that order or fall down on delivery. If you are running part of the machinery full weeks each machine turns out its product twice as fast. This point is particularly important where it takes a machine a certain time to turn out a unit. For example, in a weaving mill it takes so many days to weave a piece. If you run three days and then shut down you are going to have a lot of pieces left on the looms over the shut-down. This means that deliveries are held up and it also means that the company has a lot of money tied up in stock in process. With half of the machinery running full weeks you get the quickest possible production and have the least money tied up. I favor rotating the help and even rotating the use of machinery, but I am very much against running all machinery part time and then shutting down."

"Pete seems to forget," Bill replied, "that there are a lot of economies that come from shutting the plant down entirely for a certain number of days. I need only point out that if the plant is using steam in any way it is far more economical to run the steam plant for three days full and then shut

During Slack Times

down, than it is to try and run it at half capacity all the time. In the same way, there are many other places in the plant where labor or power can be dispensed with if the plant is closed, but you'll find that it is almost impossible to carve such expenses down to fit in with 50% operation all week. A mill is organized and balanced to run full and as soon as you start running only part of it you lose efficiency. It is far better to run it full as long as you can and then shut down. In fact, I rather favor shutting down for a full week at a time instead of part weeks. When Pete mentioned rotating the help he let the cat out of the bag. It is far better to have the full force at work part time than it is to try and switch the workers about so they all get the same time."

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Do *you* believe that it is best to run all the machinery part time or part of the machinery full time when business is slack?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

to work than others. One person may come in a few minutes late and then get to his work before one who was in the plant when the whistle blew, but spent too much time changing clothes. If this person is approached for coming in late, he doesn't think he is being treated justly as he was at work before some who were not questioned.

If we figure our production from whistle to whistle, it is going to be rather difficult to get a very high percentage production if we allow quite a bit of time to be wasted at starting and stopping time. Why not be definite and start with the whistle and stop with it? In this manner everyone will know what is expected of them and will understand if they are reminded of being late. C. P.

Enforcing Rules

Editor, Overseers' Round-Table:

IN ALL walks of life where groups of people are working toward a common objective there are certain rules they must abide by if the objective is to be attained. In athletics, politics, army and navy, and even in living with your fellow men, rules must be obeyed to protect everyone and to see that each has a fair chance.

I see no reason why there should not be rules laid down for a plant covering certain conditions or conduct. The common objective in every plant is quality and quantity. If certain rules are laid down covering these points, together with rules for the protection of life and property, I think it makes the work easier for all concerned, especially for the foremen. I think that too many rules would be almost as bad as none at all. Have as few rules as possible to cover everything necessary, see that they are known, and see that they are obeyed. SOUTH

Editor, Overseers' Round-Table:

AN EXCESSIVE multiplicity of rules is bad, for they always seem to get into the cogs of progress. There was a remarkable illustration of this in England recently.

The employees of a firm had some grievances and a strike was proposed. However, they abandoned that idea and, instead, remained at work, strictly carrying out to the extreme point every one of the many rules of the company. Work was held up and everything disorganized. Whenever any man was questioned about it, he would always point out which rule he was obeying.

Probably there is no executive who has not been exasperated by men holding too rigidly to rule.

Rules should be as few as possible and in these days of economy it would be well to cut out all red tape, for that material can be very costly. A. I. C.
England

Editor, Overseers' Round-Table:

BETWEEN ME and the "Overseers' Round-Table," I am beginning to like that level-headed young fellow whom you call Pete.

If a rule is made it is not just for a few to obey, but for all. Therefore the man who borrowed the bulb for the night should suffer punishment as well as any other worker. The "old-timer" knew the rule even better than the ordinary one and, being a valuable honest worker, he should have realized that if an exception was made for him he could not expect to enforce the rules with those under him, and several exceptions would void any rule.

In the foreman's case also, it would be showing favoritism and, as Pete says, jealousy would pop out.

So, to make a long story short, don't make a rule you can't or won't enforce, and when the rule is made make no exceptions. If the rule is not a good one *revoke* it.
"OFFICE BIRD"

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Summary of Discussion on Value of Definite Rules

All contributors agreed that it was necessary to have certain definite rules in a plant covering important features. In practically all the letters, however, there was a warning to the effect that an undue multiplicity of rules was almost as bad as no rules at all. It was stated that the number of rules should be as small as possible, for otherwise there would be a disrespect for rules or such a mass of red tape that production would suffer.

Col. Johnson Authorized to Direct Wool Week in October

A DEFINITE decision to hold a National Wool Week in 1932 was reached Tuesday at a meeting of wool trade association executives at the Wool Week headquarters, 51 Madison Ave., New York City. Col. Charles F. H. Johnson, who headed the 1931 wool week sponsors was unanimously elected chairman of the committee to supervise this year's event. He was authorized to appoint the finance, promotional and other committees within the next two weeks.

In discussing plans for the 1932 Wool Week, Col. Johnson said:

"We gained much invaluable experience in the 1931 event and this, together with other ideas that can be put into effect, should enable us to conduct a Wool Week that will be of material assistance to all branches of the industry.

"While it is unfortunately true that we cannot expect the co-operation of all important elements in the industry, nevertheless, we are assured of enough collaboration to achieve our objectives."

Discussion at the meeting revealed much difference of opinion regarding methods of holding Wool Week, but there was no disagreement as to the wisdom of promotion and need for it this year. It was generally felt that the 1932 Wool Week should be held earlier than its predecessor and October was mentioned as the most probable month. A program of dates and other details will be arranged within the next few weeks.

Present at the meeting were Col. Charles F. H. Johnson, president, Botany Worsted Mills; Thurmond Chatham, president, National Woolen Blanket Manufacturers Association; Frank E. Fitzpatrick, secretary, National Wool Week Committee; Byron J. Wilson, general manager, National Wool Marketing Corporation; Theodore Hayward, Swift & Co., Philadelphia, Pa.; Herbert K. Webb, president, Philadelphia Wool and Textile Association; Walter Humphries, secretary and treasurer, National Association of Woolen Manufacturers, Boston; William E. Jones, Boston Wool Trade Association; Prof. H. S. Davis, Wharton School of Finance, Philadelphia, Pa.; Maxwell Copelof, executive director, Merchants Ladies Garment Association; J. D. Holmes, Woolen Corp. of America and Isaac Soloman.

▸ Pequot Surveys Result of January White Sales

More than 1,900 retail stores in approximately 896 communities of 45 States featured Pequot sheets and pillow cases during January and the first week of February according to Pequot Mills which has just completed a study of advertisements appearing in newspapers throughout the country during that period.

"Prices which were less than favorable from the industry's standpoint" declared the management, "appeared to be back on a better basis following the close of the so-called January white sales. While there were many sales where prices dropped to a $1 for 81x99 and in a few scattered instances even as low as 90 and 84c., the predominant price was $1.19. Prices quoted for 81x99 in various sections of the country in the last part of January and first part of February ranged from $1.10 to $1.45.

"There is every reason to believe that the stabilizing influence of Pequot's sales policy of maintaining a published price list with definite discounts has helped in preventing greater demoralization of the market. Advertisements indicate further that the demand for 81x90 has lessened further and that the 81x99 and 81x108 are by a wide majority the most popular sizes."

"But of Course Textiles Are Different. . . . ."

Old Golds go to brown velour package—for the ladies.

It seems that sometimes the package makes the sale.

▸ Lowell Textile Alumni to Hold Old Timers' Night

The New York Section of the Lowell Textile Institute Alumni Association will hold its first meeting of the year on Tuesday evening, March 8, at the Happiness Restaurant, 535 Fifth Ave. A dinner followed by an address by a prominent downtown textile man on a humorous topic has been planned. A business meeting and a session of card playing are also on the program. Special efforts are being made to bring out the "old timers" for this meeting.

▸ Widder Bros. Emaus, Pa. Mill Wins Safety Honor

The Department of Labor and Industry of the State of Pennsylvania has awarded a certificate of merit for a record of safety which ranks "better than the state average for 1931" to Widder Bros., silk manufacturers, of Emaus, Pa., it became known this week. The award was the outcome of a statewide safety campaign, during which mills throughout Pennsylvania were subjected to a careful inspection and grading by state inspectors.

Worsted Yarn Spinners Announce Plan for a Credit Service

PLANS have been formulated for the organization of a credit investigating and reporting service for the worsted spinning industry by a committee composed of representatives of leading factors in that industry. All worsted spinners have been advised of these plans and supplied with a copy of the by-laws governing the body's activities.

Announcement is also made by the committee to the effect that Frank E. Slack has been engaged as managing director of the new association. Mr. Slack's services have long been recognized in the cotton yarn trade, where as secretary-treasurer of the Cotton Yarn Merchants' Association, he has been instrumental in effecting the savings of considerable sums through the credit clearance department of that association. Mr. Slack will continue his work on behalf of the cotton yarn association, and it is felt that the combined activities will result in substantial results for both trades.

It is also planned that the activities of the credit investigating and reporting service conducted by Mr. Slack will be expanded as a result of the action on the part of worsted spinners. Plans are being made for the organization of a corporation to be known as the Textile Credit Service, which will operate separate divisions for worsted, cotton and other yarns, raw materials, and semi-raw materials used by the industries, each to be under the control of its own group of industrial factors. Offices will be maintained in the Drexel Building, Philadelphia.

The announcement of these plans for such activity among worsted spinners has met with widespread approval. A large number of leading spinners have already indicated a desire for such a service, and new accessions are being reported since the plans became known. The plan is to become effective at once in the hope that further serious losses to the worsted spinning industry may be checked.

The committee in charge of the organization of the service is made up of the following: Chas. E. Dearnley, Dearnley Bros. Worsted Spinning Co., Philadelphia; Henry C. Sheer, American Woolen Co., New York; Marland C. Hobbs, William Whitman Co., Arlington Mills, and Monomac Spinning Co., Boston; John H. Halford, James Lees & Sons Co., Bridgeport, Pa.; Ames Stevens, Ames Worsted Co., Lowell, Mass.; Maine Spinning Co., Skowhegan, Me.; Richmond (Me.) Worsted Co., Inc.; Nornay Worsted Co., South Barre, Mass.; Louis F. Schaeffer, Thos. Wolstenholme Sons & Co., Philadelphia.

Jack Card Introduces a Novel Subject

Editor TEXTILE WORLD:

Do you mind if I talk about the weather? As a matter of fact, discussion of the unusual heat of recent years now has official support. Weather Bureau records show that the last eleven years have constituted a record hot spell since statistics have been statistics.

Even though it is stated further that there is no indication of a permanent change, the fact itself is of interest.

Bathing suit manufacturers can find therein an explanation of their progress in recent years. Overcoating producers have an alibi.

The latter can begin to talk about weather cycles. This sort of thing can't go on forever.

JACK CARD.

▸ Georgia Executives to Meet Mar. 18

The semi-annual meeting of the Textile Operating Executives of Georgia, comprising superintendents and department heads of mills in Georgia, will be held in the Physics Building, Georgia School of Technology, Atlanta, Ga., March 18, according to an announcement from Robert W. Philip, secretary of the association. Carding and spinning subjects, based upon a questionnaire which has been submitted to members, will be discussed. Captain H. P. Meikleham, agent, Pepperell Mfg. Co., Lindale, Ga., will address the body at the morning session which will begin at 9:30 o'clock. There will be a Dutch luncheon at 1:00 o'clock and an afternoon session beginning at 2:00 o'clock. E. H. Rogers, agent, Fulton Bag & Cotton Mills, Atlanta, general chairman of the organization, will preside at the meeting.

▸ Philadelphia Hosiery Dyers Organize

A meeting of the hosiery job dyers of Philadelphia was held Friday, Feb. 26, at the offices of the Philadelphia Textile Manufacturers Association, 3530 Kensington Ave., with a large number of the trade represented. It was the sense of the meeting that because of the development of various trade practices inimical to the best interests of the industry that concerted effort should be made to remedy the situation. It was unanimously decided that an association should be formed. Application for a charter will be made. It was also decided that C. Marlin Bell, general manager of the Philadelphia Textile Manufacturers Association, should be appointed impartial chairman of this group.

In discussing the situation later, Mr. Bell stated that it was necessary for the hosiery job dyers to effect concerted action because of the unethical overtures which were made, he asserted, by some manufacturers in an effort "to chisel down" prices quoted by reputable hosiery dyers. He further stated that this epidemic of chiseling to get lower rates is due to an effort to meet the 49c. competition on finished hosiery. Mr. Bell maintained that it is embarrassing and unfair where a hosiery dyer has made a reputation for efficiency and quality of work to meet such competition as is being forced upon them. It was also stated these demands are not coming from manufacturers of recognized standing, but rather from minor factors in the industry. Mr. Bell takes the position that there is no necessity for manufacturers utilizing such methods to meet competition and that cheap hosiery has been sponsored by buyers' efforts, so that a manufacturer of quality merchandise is not found making such strenuous efforts to secure lower dyeing rates.

As plans and details are completed further announcement will be made.

Hosiery Association Solicits Detailed Opinions of Members

A NEW type of trade survey was initiated this week by Earl Constantine, recently elected managing director of the National Association of Hosiery and Underwear Manufacturers, with the aim of gathering opinion of hosiery and underwear knitters as to the chief immediate problems of this industry. Mr. Constantine mailed a general letter to the association members, asking their detailed opinions on three main points: 1, what members consider the steps needed to solve current outstanding problems; 2, what members think of the present services of the association; and, 3, what added services members might suggest.

Commenting on the letter, Mr. Constantine pointed out that it avoided any "leading" questions that could be answered simply by yes or no, but instead was so couched to draw free and complete expressions of thought from the manufacturers. In this way, he added, it was possible to avoid the usual type of questionnaire which often does not bring sufficiently informative answers. The letter was attached to three blanks, on which members could dictate full answers to the questions.

The communication read in part:

"No trade association can take the place or assume the responsibilities of private management. Good managements will continue to prosper and bad managements will fail. A trade association, however, is indispensable today in any sizable industry, and there are valuable functions and services which it alone can perform. Its most important functions are to furnish a means by which the industry can evolve common policies, establish desirable practices, and gather and disseminate reliable information.

"This letter is a direct and urgent request that you transmit to us promptly, on the attached blanks, your observations on our present services and your suggestions as to activities we might undertake and services we might render. We beg you to assist us by a prompt response. All views will be given our careful consideration."

The association's Special News Letter which was issued earlier in the week, carried an article by Mr. Constantine urging members, in event the general sales tax is enacted by Congress, to make all prices exclusive of tax; he pointed out that otherwise customers might bring pressure on knitters to absorb taxes in prices which would tend toward confusion and a weak market.

▸ U. S. Testing Co. Finds Single-Top Hosiery Stronger

Greater resistance to garter strain is offered by the weltless or single-top type of hosiery construction than by the usual type, according to tests recently made by the United States Testing Co., Hoboken, N. J. The tests were made on eleven different types of hose, representing the average run of hosiery found in the market today. They included full-fashioned hosiery with double-top and picot edge, seamless hosiery with both automatic and sewed welt, and both full-fashioned and seamless single-top hosiery.

The samples were conditioned for four hours in an atmosphere of 70° F. and 65% relative humidity before testing. Each specimen was then gripped by the garter in the usual manner of wearing, the strap of the garter was clamped into the top jaw of the machine for measuring tensile strength, and the leg of the stocking was wound around the lower jaw. Thus the specimen was strained until a rupture occurred at the garter grip. It was found that more strain was required to rupture the single-top hosiery of both seamless and full-fashioned construction than was required on hosiery of both these constructions having the double welt.

In its report, the United States Testing Co. comments on the results of the test as follows: "It is evident that the single-top hose are in general superior in tensile strength at the garter grip and will withstand more strain before rupturing than will the doubletop stockings tested."

The reason for this superiority in tensile strength, as explained by manufacturers of weltless hosiery, is that a reinforcement for the single top is afforded by the construction of the fabric above the former hemming point, which has to compete only with a single thickness of the fabric on the double welt, since the wearer seldom adjusts her garter to distribute the strain equally over both layers of fabric.

NEWS about MEN

Jno. H. C. Church, president of Monument Mills, Housatonic, Mass., for ten years and treasurer for forty, has not retired as reported in last week's issue of TEXTILE WORLD. He did, however, decline reelection to those offices and, too late for publication last week, was elected chairman of the board of directors. He was succeeded in the presidency by **T. Ellis Ramsdell,** former vice-president and agent; **Delano de Windt,** former assistant treasurer, has taken the office of treasurer in Mr. Church's place. Mr. Church, is still active head of the business and has no intention of retiring.

Walter S. Wyman, former president of the Insull textile interests in Maine, of which **Col. G. Edward Buxton** has recently become the head, has resigned. **George O. Spencer** has resigned as treasurer of the Bates Mill, one of the group, at Lewiston, Me., and his place will be filled by **Jewett D. Newton,** formerly assistant treasurer of that company.

Bernard C. Cone, president of Proximity Mfg. Co., Greensboro, N. C., was toastmaster at the annual father and son banquet of the White Oak Cotton Mills, a division of the Proximity company, Feb. 26.

Wilfred Ward, president of the Providence Dyeing, Bleaching & Calendering Co., has cancelled his trip abroad because of the death of his 16 year old son, Phillip, resulting from complications following an operation for appendicitis.

C. A. Cannon, of Concord, N. C., president of the Cannon Mills Co., Kannapolis, N. C., has been reelected a member of the interstate committee of the Young Men's Christian Association of the Carolinas. He is at present on a southern cruise with his family.

G. L. Shaw has been reelected president of the United Elastic Corp., Easthampton, Mass., as were all other officers of the company. **W. Elliott Pratt, Jr.,** of Boston, has been added to the board of directors.

Donald Comer, president of the Avondale Mills, Birmingham, Ala., has accepted appointment as the Alabama chairman of President Hoover's anti-hoarding committee.

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Lynn B. Williamson, of Greensboro, N. C., president and treasurer of the E.M.H. Knitting Co., Burlington, N. C., and the L. Banks Holt Mfg. Co., Graham, N. C., has been elected chairman of the finance committee of the North Carolina Children's Home Society, at Greensboro.

R. L. Stowe, president of the Sterling Spinning Co., president also of the Stowe Thread Co., and treasurer of the National Yarn Mills, Inc., all of Belmont, N. C., was reelected president of the Bank of Belmont, at the annual meeting of the directors.

Ferdinand Thun and Mrs. Thun have left on an automobile trip through Florida. Mr. Thun is president of the Berkshire Knitting Mills, Reading, Pa.

Henry L. Tiffany, president of Kilburn Mill, New Bedford, Mass., since 1925, when he succeeded the late William M. Wood, has resigned. His place will be taken by Robert L. Jenks, of the former Fales & Jenks Machine Co., Pawtucket, R. I. Mr. Tiffany will retain his place on the board of directors but is retiring from active business. Mr. Jenks is a director of other New Bedford mills.

B. G. Slaughter, president of the Tubize Chatillon Corp., Hopewell, Va., has been elected a director of the State Planters Bank of Hopewell.

T. L. Johnston, president of the Peoples National Bank, Rock Hill, S. C., has been elected president and treasurer of the Arcade Cotton Mills, Rock Hill, to succeed the late Alexander Long. He will serve until a permanent successor is named.

B. B. Comer, Jr., vice-president of the Avondale Mills, Birmingham, Ala., has been chosen a director of the Birmingham Chamber of Commerce.

Arnold S. Hatch, vice-president of the Fuld & Hatch Knitting Co., Cohoes, N. Y., is taking an active interest in the newly organized Cohoes Taxpayers Association. Other textile men of Cohoes, also on the executive committee of the association are: **Harold W. Bennett,** president of Bennett Textile Co., Inc., **C. Raymond North,** treasurer of the Novelty Knitting Co., and **A. A. Roff,** general manager of the Roff Knitting Mills.

W. H. Coffey, has become vice-president of Cooper, Wells & Co., Hosiery Mills, St. Joseph, Mich.

Howard M. Ernst, of Ernst & Co., bonds, New York, has been elected a director of Interstate Hosiery Mills, Inc., of New York, Bloomfield and Clifton, N. J., Lansdale, Pa., and Bristol, Va. All officers of the company were reelected at the recent annual meeting.

J. N. Jeffers, former secretary-treasurer, advertising and sales manager of the Pacific Knitting Mills, Los Angeles, Cal., has sold his interest in the company to **E. W. Stewart,** president. Mrs. J. C. Bentz, widow of the founder and mother-in-law of Mr. Jeffers, continues to hold her full interest and remains as vice-president of the company. The following appointments have been made to replace Mr. Jeffers: **A. H. Eisenberg,** from New York, credit manager; **Harold Stebbins,** of Erwin-Wasey Co., New York, will handle direction of sales; **Mrs. L. McKee,** former assistant advertising manager, will be advertising manager; **S. R. Charlton** will be secretary, and Mr. Stewart, president, will also be treasurer.

Textile Calendar

Textile Forum, N.A.C.M., for overseers of dyeing, bleaching and cloth room, Chamber of Commerce Bldg., Boston, Mass., Mar. 10, 1932.

Committee D-13, American Society for Testing Materials, Spring Meeting, Providence, R. I., March 10-11, 1932.

Textile Operating Executives of Georgia, Semi-Annual Meeting, Physics Building, Georgia School of Technology, Atlanta, Ga., March 18, 1932.

Silk Association of America, Annual Meeting, 468 Fourth Avenue, New York, March 23, 1932.

Cotton Manufacturers' Association of Georgia, 32nd Annual Convention, Atlanta-Biltmore Hotel, Atlanta, Ga., April 5 and 6, 1932

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Commercial Museum, Philadelphia, Pa., April 14, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

North Carolina State College, Annual Textile Exhibition and Style Show, Raleigh, N. C., April 15, 1932.

Southeastern Section of American Association of Textile Chemists and Colorists, spring meeting, Auburn, Ala., April 30, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May, 1932. (Date is to be announced.)

Second National Cotton Week, May 16 to 21, 1932.

American Cotton Manufacturers Association, annual convention, Atlanta-Biltmore Hotel, Atlanta, May 20-21, 1932.

National Association of Woolen and Worsted Overseers, semi-annual meeting, Rocky Point, R. I., May 21, 1932.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

Ralph **C. Perkins,** treasurer of the Pilgrim Mills, Fall River, Mass., has been elected treasurer of the Queen City Cotton Co., Burlington, Vt. He succeeds Andrew M. Young who has become agent.

Harry **S. Adams,** who recently resigned as secretary and treasurer of the Eureka Cotton Mills, Chester, S. C., effective Feb. 29, becomes assistant-treasurer of the Chester plant, Aragon-Baldwin Cotton Mills, Inc., on March 1.

Fred **L. Heyes,** agent of the Nonquitt Mills, New Bedford, Mass., has resigned. Mr. Heyes was, prior to 1915, superintendent of spinning at the Nashawena Mills, New Bedford, for five years.

L. **W. Elliott,** of Sonora, Tex., has been elected executive vice-president of the National Wool Marketing Corp., at Boston. **Paul A. Draper** will continue as director of sales, and **Byron Wilson** as manager.

B. **E. Byrd,** inventor of the Boyce Weaver's Knotter is ill at his winter home at Fort Lauderdale, Fla., following a serious operation. Prior to his retirement from business about a year ago, he had charge of the manufacturing department of the Mill Devices Co., Gastonia, N. C., manufacturers of the Boyce Knotter.

Pach Bros.

Henry Ittleson, president of Commercial Investment Trust Corp. which recently took over the Iselin factoring business and whose company does an annual business of more than $200,000,000 in its three textile factoring subsidiaries.

Leonard Coleman will be Canadian manager of Stark Bros. Ribbon Corp., at Granby, Que. **Irwin E. Stark,** president of General Mills, Inc., Catasauqua, Pa., has been visiting the Canadian plant inspecting the newly operating equipment and the filling of the first orders.

S. B. Alexander, southern manager, Crompton & Knowles Loom Works, Charlotte, N. C., and Mrs. Alexander have just returned from the Pacific Coast where they spent several weeks.

D. Julius Burgess, cotton buyer at Pilgrim Mills, Fall River, Mass., has retired from the textile industry. **Ralph C. Perkins,** recently elected treasurer of the company will supervise the purchase of cotton.

G. G. Allen, superintendent of Cannon Mills, Kannapolis, N. C., spoke to the textile students of North Carolina State College last week. Mr. Allen, is a graduate of the school.

Clarence Cone, Jr., Greensboro, N. C., a senior at North Carolina State Textile School, Raleigh, has been elected assistant superintendent of the students' exposition and style show, April 15. He is the son of the late Clarence Cone, Sr., who was president of the Minneola Mfg. Co., Gibsonville, N. C.

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Obituary

William Entwistle

William Entwistle, president of the Entwistle Mfg. Co., Rockingham, N. C., died last week at the age of 87 years. He was a native of Lancashire, England, and learned the fundamentals of the textile industry there. In 1869 he came to this country and in 1871 went to the South which he decided was the logical place for cotton manufacturing. Mr. Entwistle was weave room overseer in the Great Falls Mill, at Rockingham, from 1871 to 1878, when the Pee Dee Mfg. Co. was started and he became its superintendent. Following this he became general superintendent of Roberdel Mfg. Co., operating two plants, and in 1910 he organized and built the Entwistle Mfg. Co. In 1930 Roberdel Mfg. Co. was purchased by the Entwistle Mfg. Co., of which Mr. Entwistle continued as president until his death. He was also general superintendent of the Pee Dee Mfg. Co., of which his son is president. Surviving are two children: Mrs. Josephine Watson and George P. Entwistle.

William L. Hendrick

William L. Hendrick, superintendent of Gaston Mfg. Co., Cherryville, N. C., died suddenly Feb. 17. Mr. Hendrick, who was 64 years of age, was a native of Cleveland County (N. C.) but moved to Cherryville 37 years ago. He had been superintendent of the Gaston Mfg. Co. for 24 years. He is survived by his widow and seven children.

Arthur S. Losey

Arthur S. Losey, former sales manager of the Russell Mfg. Co., Middletown, Conn., died Feb. 24. He was connected with the company for 35 years but retired several years ago. He is survived by his widow, mother, two daughters and a brother.

Isaac A. Smith

Isaac A. Smith, president of I. W. Smith Woolen Co., Bridgeport, Pa., died suddenly, Feb. 27, at the age of 55 years. He is survived by his brother Lewis Y. Smith, treasurer of the company, and a sister.

John T. Greenwood

John T. Greenwood, a former partner of the firm of Greenwood & Bault, Frankford, Philadelphia, died, Feb. 19. Mr. Greenwood was 78 years of age. He retired from active business 25 years ago. The original firm is now conducted as the Globe Dye Works. He is survived by two daughters.

R. L. Poovey

R. L. Poovey, superintendent, Paola Cotton Mills, Inc., Statesville, N. C., died at his home Feb. 15, following an illness of two weeks. He was the victim of a heart attack. Mr. Poovey was 50 years of age and had resided in Statesville for 13 years. He is survived by his widow and four children.

Burrows Sloan

Burrows Sloan, chairman of the board of the General Refractories Co., Philadelphia, and a business associate of the late Governor Sproul, of Pennsylvania, died Feb. 28, at the age of 55 years.

John Turner

John Turner, partner in the firm of Turner & Hefler, Hyde Park, Mass., dye manufacturers, died Feb. 12. Mr. Turner was born in Hayfield, Eng., in 1862 and came to this country when 16 years of age. He was a 32nd degree Mason. His widow and one sister survive.

William C. McMillan

William C. McMillan, president of Talladega (Ala.) Cotton Factory, Inc., died recently at the age of 57 years, following a brief illness. He is survived by three sons.

Dean Sutcliffe

Dean Sutcliffe, 61 years of age, superintendent of the Indiana Cotton Mills, Cannelton, Ind., and before that superintendent of the Pomona Mills, Inc., Greensboro, N. C., died Feb. 19.

Henry Veghte

Henry Veghte, secretary of the Diana Knitting Co., Johnstown, N. Y., died Feb. 6, at the age of 67 years. He was also a director of the Johnstown Knitting Mill Co.

NEWS about MILLS

Cotton

Avondale Mills, Birmingham, Ala., will carry out an expansion and improvement program at its various plants, to provide for a large increase in output. Work will represent investment of about $500,000.

Pepperell Mfg. Co., Biddeford, Maine is running near a capacity schedule. **Lewiston (Me.) Bleachery & Dye Works,** controlled by the Pepperell company, has added about 100 operatives to the wide sheeting department which is unusually busy.

West Boylston Mfg. Co., Easthampton, Mass. The recreation hall of the company was destroyed by fire Feb. 28 with a loss estimated at $90,000.

American White Cross Laboratories, Cape Girardeau, Mo. The parent company at Mt. Vernon, N. Y., purchased the plant of the **American Gauze & Cotton Co.,** in Missouri, last October at the receivers sale. Since that time, eight carloads of machinery have been installed, making the mills one of the most modern for the manufacture of absorbent cotton. It will be used in time as Western distribution branch for all White Cross products.

Boger & Crawford Spinning Mill, Lincolnton, N. C., recently resumed full time operations on a day and night shift.

Rockfish Mills, Inc., Rocky Mount, N. C. The office of the company was moved to Hope Mills, N. C., as of March 1.

Rowan Cotton Mills Co., Salisbury, N. C. Enough orders have been received to insure full time capacity schedules for 14 weeks or more.

Erwin Cotton Mills Co., West Durham, N. C., is installing a complete equipment of Foster high-speed cone warping, including model 102 cone winders and Foster magazine cone creels.

American Spinning Co., Greenville, S. C., has completed the installation of six No. 40 winders recently purchased from the Universal Winding Co.

Pendleton Mfg. Co., La France, S. C., a unit of the **La France Industries,** is installing additional machinery for the manufacture of tapestry. Approximately 12 carloads of new machinery have been received at the plant within the last two months. The mill is operating at maximum schedule on day and night basis, according to recent reports, and many additional employees were added to the payroll during January and early February.

Arcade Cotton Mills, Rock Hill, S. C., of which Alex. Long, Sr., was president and treasurer until his recent death, will hold a meeting of stockholders March 10, to consider resolutions of the board of directors for the reduction of common capital stock par value. T. L. Johnston, bank president of Rock Hill, has been elected temporary president and treasurer; it is understood that a successor will be elected to Mr. Long.

**Indicates previous mention of project.*

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Excelsior Mills, Union, S. C. Approximately 75 operatives have been added recently to the operating force.

Ware Shoals (S. C.) Mfg. Co., has awarded contract to A. K. Adams Co., Atlanta, for concrete, brick-walled, tar and gravel roof filtration plant, costing approximately $45,000. J. E. Sirrine & Co., Greenville, S. C., are architects.

Dominion Fabrics, Ltd., Dunnville, Ont., Canada, will soon begin superstructure for a one-story addition, about 200x200 ft. It will cost about $125,000, with equipment. General contract for building has been let to Sullivan & Fried, Ltd., Toronto, Ont.

***Montreal Cottons, Ltd.,** Valleyfield, Que., Canada, have completed a program of complete mill renovation, in which new cards, new and reconditioned spinning frames, new looms, new rayon equipment, new finishing equipment has been installed, at a cost of over $1,500,000. The equpment now ncludes 150,000 spindles, and 3,750 looms.

Wool

Fredericks Spinning Co., Inc., Brooklyn, N. Y., has been organized with a capital of $100,000, by Samuel K. Goldstein, 8005 Twenty-first Ave., and H. Sidney Landau, 1362 East Thirteenth St., Brooklyn.

Bigelow-Sanford Carpet Co., Thompsonville, Conn. Bids are being submitted for complete oil burning equipment for power plant of Thompsonville mills.

***Peerless Woolen Mills,** Rossville, Ga., have awarded general contract to J. M. Allen & Co., Chattanooga, Tenn., for proposed new three-story addition, 100x300 ft., brick and steel, to cost about $100,000, with equipment. W. H. Sears, Chattanooga, is architect.

Talbot Mills, North Billerica, Mass., are running on an increased production schedule, with some departments employing double shifts. The plant has about 450 operatives on the payroll.

Piedmont Plush Mills, Inc., Greenville, S. C., will be closed for two weeks early in March for the purpose of making rearrangements in some of the plant equipment. Plans call for more extensive manufacture of automobile fabrics.

Texas Angora Goat Raisers' Association, Rock Springs, Tex., is considering acquisition of former Landa oil mill at New Braunfels, Tex., to be remodeled and improved for a proposed mohair and woolen mill. New Braunfels Chamber of Commerce is interested in the project.

Merrill (Wis.) Woolen Mills Co. All departments have started production, except a minor one which awaits the manufacture of certain stock, on a 7-hour a day basis, until spring business develops more broadly.

Renfrew (Ont.) Woolen Mills, Canada, are running day and night and are turning down orders they cannot fill. The plant is running on automobile cloth and women's wear, mostly piece dyes.

Knit

Gardiner-Warring Co., Inc., Florence, Ala., has received orders which require the employment of additional operatives bringing the total to 527. The management of the company, in compiling figures for the chamber of commerce, has reported that during the last year the company had a payroll of $220,000 and that the purchase of raw materials totaled $400,000.

Sterling Silk Glove Co., Bangor, Me., has given employment to full working force on a four-day week basis.

Olga Knitting Mills, Inc., Watertown, N. Y., expects to go into full time operation Monday as announced by John C. Neumann, president. A new department, in the former warehouse on the top floor of the Olga plant, will manufacture house dresses of knitted mesh wash goods.

Puritan Knitted Fabrics Co., Allentown, Pa., recently organized to manufacture knit goods, will be headed by David, Isadore and Samuel Reinhard, 8th and Harrison Sts., Allentown.

Nu-Craft Hosiery Mills, Inc., Mohnton, Pa., recently reorganized, have been certified by the Secretary of State for a change in name to **Penn Maid Hosiery Mills.**

***Lawler Hosiery Co.,** Memphis, Tenn. This newly incorporated company will act as agent and jobber in the trade but will not engage in the manufacture of hosiery as published in the Feb. 13 issue of TEXTILE WORLD.

Silk

Welwood Norwich Ribbon Factories, Inc., Norwich, N. Y., will soon begin operations at their branch plant at Murfreesboro, Tenn., where work is under way on improving and equipping the former local mill of the Frank Silk Mills, Inc. About 60,000 sq.ft. of manufacturing space will be used. The new unit will give employment to 150 persons.

Astoria (L. I., N. Y.) Silk Works will be liquidated under the supervision of the creditors' committee, headed by George Elbogen, of George Elbogen & Co., Inc., New York.

Onondaga Silk Co., Inc., Syracuse, N. Y., is holding to an 80% production basis at local mill and branch plant at Ogdensburg, N. Y., and expects to continue this schedule indefinitely.

Champlain Spinners, Inc., Whitehall, N. Y., have purchased all the machinery and equipment of the spun silk plant of the **South River (N. J.) Spinning Co., Inc.** It will be transferred to Whitehall and operated by Champlain Spinners, who will manufacture spun rayon yarn made of long rayon fiber, and other specialties.

R. K. Laros Silk Co., Bethlehem, Pa. During the last month the company has hired 500 additional employees by staggering work in order to benefit as many as possible. The number of spindles per operator has been reduced as well as hours per shift. Even the janitors are working one day less a week. Improvements have been made in the plant to provide extra work.

**Indicates previous mention of project.*

Reading (Pa.) Silk Throwing Co. George L. Roller, as treasurer, and Joseph S. and Edward J. Lerch, all of Reading, have been granted charter, with capital stock $30,000.

Rayon

***Celanese Corp. of America,** Amcelle, Md., has begun construction of a one-story, sawtooth roof, dyehouse, 116x170 ft., General contract has been let to John I. Vandergrift, Cumberland, Md., which has awarded sub-contract for certain work to the Cumberland (Md.) Contracting Co.

***Industrial Rayon Corp.,** Cleveland, Ohio. A one-story building, 490 ft. long, providing 50,000 sq.ft. of additional space, is to be added to the Cleveland plant. The building will be of brick sawtooth construction. Contractors' bids are being received by Christian, Schwarzenberg & Gaede, engineers. The company also plans additions to the knitting department.

Finishing

Joseph Bancroft & Sons Co., Wilmington, Del., plans rebuilding of portion of drying room, occupying upper floor of building, 100x300 ft., recently damaged by fire. Loss estimated about $20,000, including equipment.

Apex Piece Dyeing Co., Paterson, N. J., will erect six new buildings in connection with expansion program, recently announced, including a two-story silk finishing unit, two-story and basement silk printing mill, two-story and basement dye house, two-story and basement general mill, one-story and basement chemical unit and one-story boiler house. Bids have been asked on general contract. John C. Van Vlandren, Paterson, is architect.

Miscellaneous

American Felting & Batting Co., Voluntown, Conn., plans rebuilding of portion of local mill, recently damaged by fire with loss of about $15,000.

Asbestos Spinning & Weaving Corp., Waterford, N. Y., has filed a petition in bankruptcy, showing liabilities of $52,593, and assets totaling $106,133.

Stayton, Ore. A flax plant which has long been closed, will be reopened soon. Joseph Baumgartner, of Salem, the new owner, reports good demand for scutched and retted flax.

Business Literature

Automatic Pumps. Electric Controller & Manufacturing Co., Cleveland, Ohio. Automatic pumping control equipment is discussed, and an example is given of the power saving that may be expected.

Carbon Tetrachloride. Roessler & Hasslacher Chemical Co., Inc., Niagara Falls, N. Y. A 28-page booklet entitled "Carbon Tetrachloride—Properties and Uses," has been prepared. Written in semi-technical style, it sets forth information on the properties, specifications, and commercial applications of this non-flammable solvent.

Chain Drive. Link-Belt Co., Indianapolis, Ind. Pamphlet describes and illustrates new $\frac{3}{8}$ in. pitch chain and points out its applications and advantages.

Chemical Research. Hercules Powder Co., Inc., Wilmington, Del. A carefully prepared booklet describes the new research facilities made available by the construction of a new laboratory. The work which has been and is being done in this field is outlined.

Cotton Pickers. Saco-Lowell Shops, Boston, Mass. Automatic rack release, the positive knock-off, and adjustable grid bars are the cotton picker improvements which are given consideration in a recently issued leaflet. Illustration will assist the reader in obtaining a clear understanding.

Electrical Equipment. Roller-Smith Co., New York. Announcement is made of a new bulletin and three new devices as follows: Bulletin No. 160 covering a.c. portable instruments, type T mounting base, surface tension balance, and type HTD-2 circuit tester. Descriptions of the three new devices are offered as supplements to previous catalogs and bulletins.

Electrical Equipment. General Electric Co., Schenectady, N. Y. Four bulletins describe, illustrate, and give specifications for pressure and vacuum switches, grid type field rheostats, and motor starting switches respectively.

Fabric History. Clyde Fabrics, Inc., Newton, N. C. An interesting booklet, having many excellent views of mill interiors, describes the intricacy of the steps that must be taken before an article can even start into production.

Flyers. Saco-Lowell Shops, Boston, Mass. The summary of a flyer and roving test indicates that periodical reconditioning of flyers is a worth-while procedure. Some defects to look for when inspecting flyers are outlined.

Gears. International Nickel Co., Inc., New York. The fabrication and heat treatment methods used in the manufacture of gears made from nickel chrome and 5% nickel steel are described.

Gears and Gear Blanks. General Electric Co., Schenectady, N. Y. Two leaflets describe respectively Textolite and Fabroil gears and gear blanks. Constructional details and performance data are supplied.

Instruments, Recording. The Bristol Co., Waterbury, Conn. Outstanding features, constructional details, and principle of operation of the free-vane, air-operated recorder controller are outlined in an illustrated catalog.

Inventory Taking. Barrett Bindery Co., Chicago, Ill. An interesting 32-page booklet entitled "How to Take Inventory in a Manufacturing Plant," has been made available.

Looms, Shuttle Changing. Crompton & Knowles Loom Works, Worcester, Mass. "Shuttle-Changing Automatic Looms" is the subject of a recently issued leaflet. Let-offs of both the automatic and direct type are described in addition to the shuttle changing mechanism.

Long Draft Spinning. Whitin Machine Works, Whitinsville, Mass. A carefully prepared 24-page booklet entitled "The A.B.C. of Long Draft Spinning" describes the principal system of long draft arrangements which are now established in this country and defines to some extent their scope of usefulness and their limitations. A preliminary theoretical discussion of drafting should prove of interest.

Magnetic Switch. General Electric Co., Schenectady, N. Y. A magnetic switch serving the purpose of an across-the-line starter for induction motors is described and illustrated in a recently issued bulletin. Various accessories to be used in conjunction with the switch are also described.

Modern pH and Chlorine Control. W. A. Taylor & Co., Inc., Baltimore, Md. This is a new 50-page treatise containing a simple explanation of the meaning of pH control, a technical discussion on the subject, its application to more than thirty research and industrial problems, and the approximate pH values of over 100 acids, bases, foods, etc. The most modern pH and chlorine control equipment is described and its advantages pointed out.

Motors, Electric. Century Electric Co., St. Louis, Mo. Illustrated leaflet describes the type SR slip ring induction motor. Constructional details are clearly explained.

Motors, Electric. General Electric Co., Schenectady, N. Y. The tandem operation of textile finishing machinery with adjustable speed, brush shifting, a.c. motors and control is outlined.

Motors, Small Electric. Wagner Electric Corp., St. Louis, Mo. "Small Motors" is the subject of a new 30-page illustrated bulletin which is divided into eight parts describing single phase, polyphase, and d.c. motors in fractional horsepower ratings. Constructional features are illustrated and described in detail.

Oiling Devices. The Lunkenheimer Co., Cincinnati, Ohio. Oil cups and oiling devices manufactured by this company are illustrated and described. Specifications and prices are provided.

Pine Oil Products. Foster Finishing Products Co., Philadelphia, Pa. The properties and uses of various pine oil products are outlined in a pocket-size booklet. The appendix contains useful reference tables.

Power Pumps. Worthington Pump & Machinery Corp., Harrison, N. J. Horizontal-duplex system; cap and valve plate; type D-2437, for general service, 6-in. stroke, inclosed crankcase, self-oiling. Capacities, sizes and description.

Pumps. Pennsylvania Pump & Compressor Co., Easton, Pa. Two illustrated bulletins recently issued: Bulletin No. 216 covers OMF type of sleeve and ball bearing multi-phase centrifugal pump; bulletin No. 217 covers LF type of single-phase pump.

Pump. DeLaval Steam Turbine Co., Trenton, N. J. 12-page catalog describes the DeLaval balanced, single-suction series pump. It is a two-stage pump having single suction impellers placed back to back; and the operating principle and constructional details are carefully explained.

Solvents. Roessler & Hasslacher Chemical Co., Inc., Niagara Falls, N. Y. Important features, physical properties and major uses and applications of non-flammable solvents are contained in two folders recently issued by the company.

Spindle Clutch. Whitin Machine Works, Whitinsville, Mass. Features of the Whitin-Magrath spindle clutch are illustrated and described in a 4-page leaflet. Simplicity of design and ease of installation are stressed.

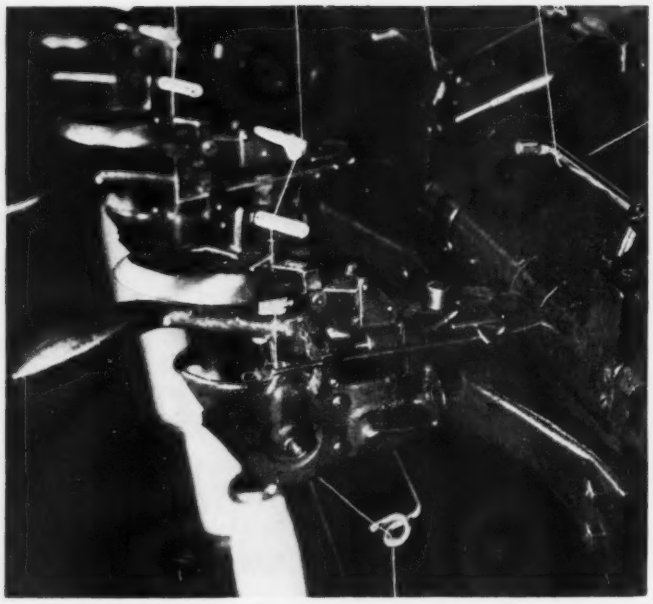


Fig. 1. Showing details of device for automatically arresting yarn to allow for inspection of defective or uneven portions

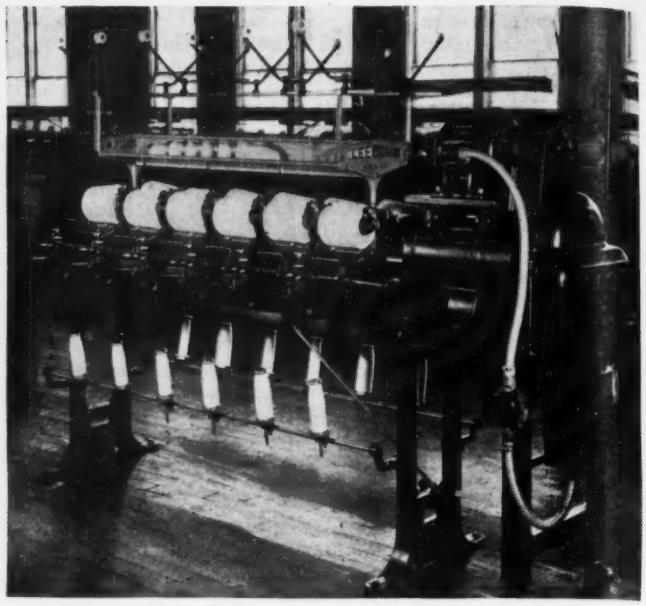


Fig. 2. No. 60-GF winder equipped with new mechanical inspection device

New Machinery *and* Processes

Mechanical Inspector for Worsted Yarn

AN IMPROVED device designed for the detection of spinning and twisting faults in worsted yarn is announced by Universal Winding Co., 95 South St., Boston, Mass. This takes the form of a slub trap which is built into and is an integral part of the No. 60-GF winder.

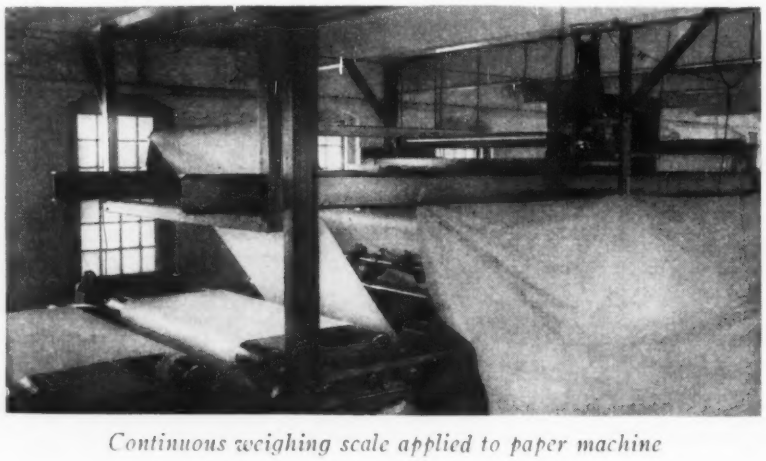
Through the medium of suitably balanced feeler blades, an imperfection coming along in the line of yarn will throw off balance the blade itself, causing an individual brake to be applied to the package and allowing the slub to be drawn to a convenient point where it can be easily seen by the operator. In the event that it is a soft waste slub, it is asserted that it can be removed from the yarn without breaking the latter. It is further pointed out that when two-ply yarn, run from doubler packages, is being inspected, a single knot will stop the package but will not be broken; and the winding operation may be continued by starting the spindle anew. This method of operation is expected to be of particular value to some classes of manufacture where knots already on the package need to be reinspected; a knot stopped by the trap could be tested and, if found perfectly sound, allowed to continue.

With the degree of inspection said to be assured by means of this device, it is declared that it now becomes possible to take the wound package from the winder—a 2½-lb. package on magazine-type cone—and place it in the creel of a single-end, high-speed jack spooler or section beamer.

What are asserted to be successful and practical tests carried out under ordinary commercial conditions lead the manufacturer to believe that this new form of mechanical yarn inspection will met with widespread favor.

Continuous Weighing Device

TO AID manufacturers of sheet-material products in obtaining uniformity of weight of the processed material, Toledo Precision Devices, Inc., Toledo, Ohio, has developed a new weighing device, known as the Continuous Auto-Check. Its outstanding feature lies in a system of continuous control whereby instant warning is



Continuous weighing scale applied to paper machine

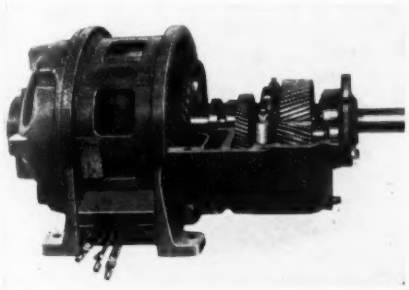
said to be given of any variation from the predetermined standard.

The operation of the weighing device is described as very simple. The material to be tested passes over three rollers, all in the same horizontal plane. One-half of the material between the end rollers is supported by the middle one. This roller is mounted on the auto-check mechanism, and is the weighing element of the contrivance. The load to be weighed is counterbalanced by an appropriate beam and poise. A pendulum equipped with a pointer and traveling over a chart indicates any variation from zero, or the predetermined standard weight.

The unit may be secured for any desired capacity, and it is expected that in the textile field it will find its largest use in the weighing of rubberized fabrics and the like.

Unit-Built Motors and Speed Reducers

FOR powering various motor-driven equipment which operates at reduced motor speeds, Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa., has developed a new unit drive consisting of a gear-reduction unit built into a conventional type of electric motor. The speed reducing unit is of the double reduction, non-planetary, helical-gear type, and is built into the one-piece motor frame, forming an overall unit which is said to be but a few inches longer than the motor alone. The manufacturer states that an outstanding improvement has been incorporated in the motor construction in the form of a prewound primary core which is separable from the stator frame. This feature is said to make possible economies in motor operation and maintenance and in the maintaining of repair parts. It also permits quick and inexpensive change of motor speed, voltage, and phase.



Compact motor-reducer unit for operating reduced-speed equipment

The desired reduction of motor speed is obtained by means of helical gears and pinions, the teeth of which are cut to a high degre of accuracy by the hobbing process. All gear and pinion shafts are supported on roller bearings, and a simple splash system of lubrication is designed to provide all moving parts of the speed-reducing mechanism and one motor bearing with an ample supply of oil. The other motor bearing is packed with grease. Adjoining faces of the two sections of the housing are said to be so accurately machined and securely bolted together that no gasket is required. Accessibility to the various parts of the unit is asserted to be readily obtained by removing the top section of the housing. These units are known by the trade name of Gearmotor and are built in sizes ranging from ½ to 15 hp.

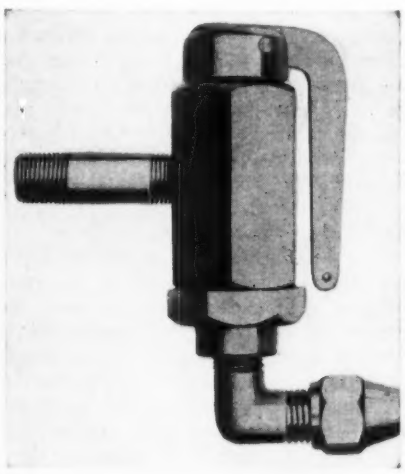
Centrifugal Acid Pumps

ANNOUNCEMENT is made by the U. S. Stoneware Co., 50 Church St., New York, of the redesigning of their entire line of ceramic-lined centrifugal acid pumps.

A double packing gland designed to prevent all spraying has been installed, and a semi-automatic gland adjustment is provided. Constant gland pressure is said to be maintained by means of a temperature compensating device. It is asserted that all parts have been standardized and that accessibility has been developed to the point where any worn part can be removed in ten minutes. All stoneware parts are ground into protecting armor rather than being cemented in. A dual impeller has been provided for gland release, and impeller clearances are adjustable. Corrosion resistant alloys are used on all metal parts that might be injured by the fumes of highly volatile liquids. In addition to these improvements, material reduction in floor space is said to have been effected.

Engine Primer

FOR facilitating the starting of gasoline engines, a unique device is announced by the Linde Air Products Co., 30 East 42nd St., New York. It is known as the P-O-L Primer, and is described as a simple and easily installed device for introducing acetylene, a highly combustible gas, into the cylinders of an internal combustion engine, so that it will start easily and quickly. In starting an engine on which the primer has been installed, the usual procedure of spark and gas adjustment is followed, except that the primer is used instead of the full choke. The acetylene mixture, which fires more easily and quickly than gasoline, is introduced into the cylinder and the engine turns over at once.

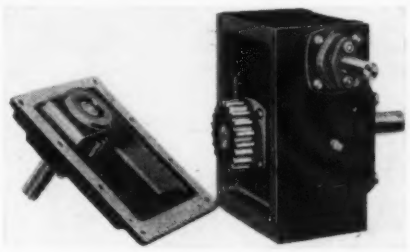


Simple priming device to facilitate the starting of gasoline engines

Two-Speed Reversing Unit

DEVELOPMENT of a two-speed reversing unit for general application is announced by Ohio Gear Co., 1333 E. 179th St., Cleveland, Ohio.

When used as a substitute for bevel-gear reverse, it is pointed out that the clutch may be placed where most convenient, instead of between the two ends of the shaft where, as a rule, there is little room to spare. It is stated that the two speeds may be arranged for one-to-one ratio or any other reasonable ratios likely to be met with in such service. The shafts may be arranged to be on opposite sides of the housings or on the same side and to operate in the same or in opposite directions, as may be specified.



Two-speed reversing unit for connecting shaft ends

The unit can be arranged to operate shafts whose centers are several inches apart; and, being completely enclosed, it is dust and moisture proof. Grease-lubricated ball bearings are said to assure efficient operations over long periods.

Static Eliminator

ANNOUNCEMENT is made by Simcoe Mfg. Co., 430 Race St, Philadelphia of the development of a new static eliminator which has no transformers, wire, switches, piping, or high voltage connection. This device, known as the Wizard Static Isolator has the apearance of a piece of metal ⅛ in. thick, and 1 in. wide, the length of the bar being equal to the width of the material to be discharged. It is said to be unaffected by surrounding metal or weather conditions and can be placed at any position on any kind of machine.

The method of treating this bar is described as basically new. Vitalization of the material is secured by subjecting it to a special patented process, the effectiveness of this treatment being claimed to last for a number of years. By revitalizing it, an old bar is said to be made as good as new.

Better working conditions, reduction of waste, greater efficiency, and lower costs of production at a moderate price are claimed as advantages of this contrivance.

Questions . . . *and* Answers

Bleaching Tubular-Knit Cloth

Technical Editor:

Will you inform us how to bleach the enclosed sample of tubular-knit cloth? Can this be done in rolls? If so, what bleaching agent is used, and what is the method of drying? We have the standard washers, extractors, and drying tumblers. Is any other machinery necessary to bleach and dry this type of fabric in rolls? (7797)

The bleaching of knitted, cotton tubular fabrics, such as the sample submitted, can be accomplished either with peroxide bleaching or alkaline boil and chlorine bleach. In large quantities; that is, 1 ton per day, or more, it frequently is the custom to use a kier. The kier may be employed either for peroxide bleaching or alkaline boiling. Washing and bleaching with chlorine may be accomplished on hump reel machines. Drying is carried out on equipment designed specifically for this type of work.

▼

Filling Streaks in Rayon Crepe

Technical Editor:

We are enclosing two pieces of rayon crepe—a 92x50 composed of 150-denier yarn both ways, and a 92x50 having a 150-denier warp and 100-denier filling. What is your opinion as to the cause of the filling streaks? (7811)

It is our opinion that the streaky defect is not caused by the filling, as we removed the filling at those places where the streaks appeared and found it to correspond in uniformity to the rest of the piece. After the filling had been removed from the defective area, the streaks still showed in the fabrics.

Further examination disclosed that a considerable amount of oil still remained in the fabrics and that the goods felt very harsh. We believe, therefore, that the crepe was improperly finished or processed, too much oil having been applied. Again, these fabrics were not properly stretched on the frame, but were pulled unevenly.

▼

Streaks in Piece-Dyed Knitted Fabric

Technical Editor:

We are enclosing two samples of knitted fabrics which, as you will see, have dyed unevenly. One shows a practically continuous band of darker color. In the other sample the band is not continuous, a lighter portion being followed by a darker portion on the same thread. The contention is that in both cases the uneven dyeing is the result of mixed yarn or mixed stock. We differ from this contention, at least in the second case. Both samples are made from 2/50s French-spun yarn. The pieces were knit from white yarn and dyed in the piece. We shall appreciate your opinion as to the cause of the defect. (7808)

Streaks in piece-dyed knit or woven fabrics may result from the following causes: uneven dyeing, optical phenomena, and unequal affinity of the fibers for the dyestuff. In this case we may at once dismiss the idea of uneven dyeing, because of the fact that the defects follow certain yarns; whereas uneven dyeing will not follow definite lines, but will spread to larger and more irregular areas. The optical phenomena are in a measure related to the effect that is purposely produced in the finish known as moiré. When the twist or the lay of the yarns is capable of forming certain coincidences and contrasts, there frequently results a series of varied lights and shadows in the form of irregular patterns. These are in no way dependent on the dyeing, but are due to the way the light is reflected and refracted by the fabric. In the fabrics in question, we find some yarns which, by themselves, continue as dark shades and then become normal. Apparently these yarns are of the same size as the rest of the yarn. In the other piece, the appearance of the bands still shows that two or three adjacent yarns are dark, while the rest are normal, the banding effect being due to the fact that the knitting machine uses six or eight feeds from separate cones. Because of these facts we may also dismiss the idea that the dark yarns and bands are due to optical effects.

We are forced to the conclusion that some of the yarns or parts of the same yarn show a different affinity for the dyestuff than do other portions. This can result from two causes: (1) the presence of a wool from different districts or breeds of sheep; and (2) the fact that a uniform mixture of wools has been subjected, after spinning, to the action of light, heat, or chemicals in such a way that the action was strictly local and affected only some parts of the lot. Only the mill that made the yarns can tell about the wool mix, and the conditions which might have affected the yarns may still be traced by a thorough inquiry.

If the skeins or cones have, at any time, been in a locality where they may have been overheated or exposed to strong sunlight or vapors of chemicals, this may furnish a clue, because there is little doubt that whatever has caused the trouble did its work between the time the yarn was spun and before it was knit. While the emulsion used to lubricate the wool may have contributed to the unevenness, it cannot be held responsible; otherwise the effect would have been more general instead of local. This, of course, assumes that the wool mix was uniform and that all the yarn was spun from the same lot. On the other hand, if there was any irregularity in the wool, you need look no further for the cause of the trouble.

▼

Defects in Men's Half Hose

Technical Editor:

We are enclosing several pairs of socks which are defective, and we shall appreciate any information you may be able to give us as to the cause of the trouble.

On the two dyed pairs of socks you will notice small holes in the clock. We have checked the knitting of these socks, but are unable to find any defect until after the sock is dyed. It is worse in the colors of blue and black than in any others. On the gray socks of the same design, you will find no trace of this trouble.

In the case of the other socks, you will notice that the yarn loads up on a single needle stripe, causing it to break and not shed the stitch as it should. (7806)

We shall discuss first the samples which have holes in the dyed work, but not in the gray goods. Our inspection of the gray samples shows that the holes are due to mechanical conditions. In forming the wrap stripe on this type of machine the extra thread is wound completely around individual needles at a point above the sinker where the needle is very small. Too much tension on

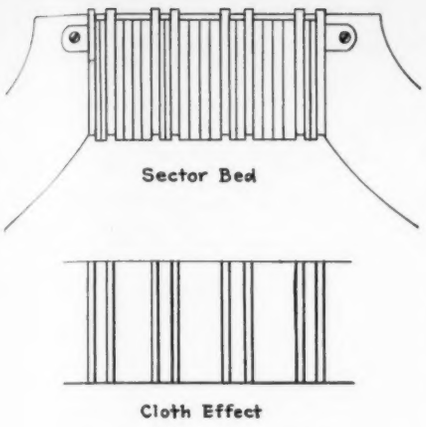


Fig. 1. Cutter and Cloth

the yarn which forms the clock will make the casting-off of the stitch very difficult. The result is that the rayon thread used in the body of the leg and foot will be strained and chafed. Close examination shows broken filaments in the low-luster rayon used in the ground fabric under the clocking.

We suggest that the clock yarn, which is evidently spun silk, be run under less tension. This will cause the stitch to shed with less strain and form a better-appearing pattern. The arrowhead of the dyed goods seems to have been formed with the yarn under less tension. The fabric has much improved elastic properties at this point and looks better.

The clock yarns are also of slightly greater bulk than is required to form a clear pattern. Use of a somewhat lighter yarn would cause the fabric to be more elastic at these places, and less strain would be placed on the adjoining fabric in boarding the goods. It will be observed that the drop stitches occur on the stitch following the one on which the clocking yarn is withdrawn. In other words, it comes when the double loop of ground yarn and clocking yarn is drawn through the first single loop of ground yarn. The bulk of yarn in the double loop is more than the stitch will stand. A lighter yarn for the wrap-around should, therefore, eliminate this condition.

As to the socks in which the yarn is loading the needle in the single-needle stripe, we recommend the use of a lighter yarn with less tension on the wrap-around. On machines employed for knitting this style the extra thread is wrapped completely around individual needles considerably above the regular fabric. If undue tension is applied to the thread, the crochet stitch will be cast off with difficulty.

▼

Striped Effect Cut in Overcoating

Technical Editor:

Enclosed you will find two swatches of imported overcoatings. One has a vertical cut effect and the other has a right-twill cut effect. How is this cut effect obtained? The cloth, on analysis, is found to be constructed of a double five-harness sateen weave. (7803)

The two samples of imported overcoatings, showing respectively a vertical and diagonal cut effect, are very good examples of the important development known as "fancy cutting," applied generally to cloakings of the velour-type of finish. The designs usually made by this device are of straight-line types, in imitation of cord, rib, and diagonal effects. At times, more elaborate designs of the floral and jacquard imitations are produced. The principle underlying the production of these various effects is simple.

Any local excrescence, such as a weaver's knot, a slub in the yarn, or even a bit of flock getting between the bed of the shearing machine and the cloth raises the material at that point, thereby causing increased cutting action on the upper surface. If the raising is excessive, considerable damage to the cloth may be caused. Given the means, therefore, for regular lifting at localized places along the bed of the shearing machine, it is quite plain that as the piece passes under the cylinder and blade, regular indentations running warp wise will be sheared out, and a cloth having a cord effect will result. This can be accomplished by any of the following methods: (1) slotting the bed, (2) slotting the blade, (3) putting wires or thick strings over the ridge of the bed, (4) using the "sector bed" (see Fig. 1).

The latter method is a modern arrangement and is capable of adjustment to allow for different thicknesses of sectors and spacings, some of which

Fig. 2

may be raised and others lowered according to the design desired. In this way any cord or stripe patterns in various degrees of spacing can be easily made.

A cam or eccentric-disk mechanism which lifts the cylinder and blade at periodic and regular intervals provides rib effects, i.e., indentations across the width of the piece. Again, by diminishing the cylinder blades to one or two straight bars, similar rib patterns may be obtained. By employing an alternating motion of the notched blades from one side to the other, wavy stripes are produced. Finally, by combining the warp and filling methods as outlined above, distinct and attractive check designs will be obtained.

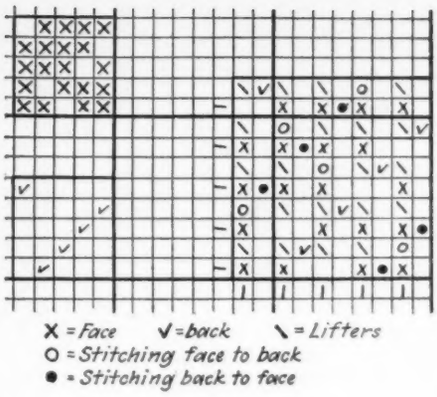


Fig. 3. Weave pattern

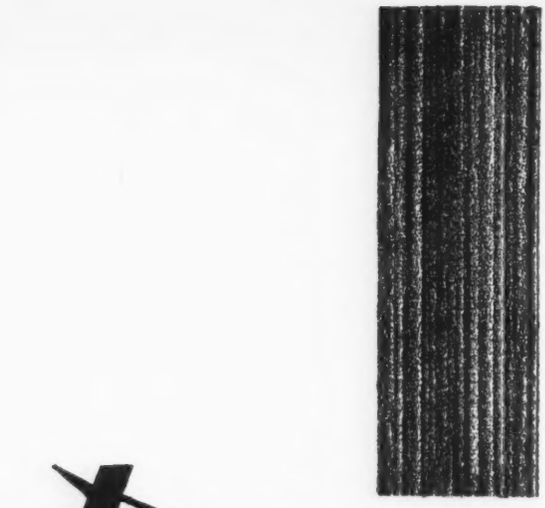
One textile-machinery concern has modernized the above methods by substituting a roller bed in place of the upright and stationary bed arrangement. We understand that this has met with considerable favor. The ordinary bed has been replaced by a roller having stripes of thin tin plate soldered edgewise on the surface and fashioned to the desired pattern. In other words, the complete design is fixed on the roller by means of the thin tin plate; and the projections thus formed raise the cloth at these points. When passing under the cylinder and blade, these places are sheared out, leaving an exact duplicate of the pattern on the roller. In Fig. 2 a rough sketch is given of a roller, showing the projections necessary to afford a diagonal design.

It will be quite obvious from the foregoing description that any material to be treated for cut-figure effects is not adaptable to reshearing processes; and consequently, the maximum of care must be exercised in the preliminary preparations and mechanical adjustments. By means of a special tensioning arrangement attached to the machine, the danger of slipping or puckering during the cutting operation has been overcome.

In conclusion it would be well to state that all fabrics intended for this type of velour finish and cut-design decoration must be of a soft, pliable, and drapy handle and not too stiff and boardy, as in the melton type of finish. The stock used should be of good fulling quality, blended with botany laps and noils. The weaves most suitable are those of the sateen order, Russian twill, or any weave which permits of an even and flat surface after fulling and napping and which shows no textural characteristics, as this is absolutely essential in order to ensure perfect indentation of the cut-figured design.

The weave illustrated at Fig. 3 applies to the accompanying cord design and would be equally suitable for the diagonal design.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.



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TEXTILE WORLD ANALYST

Drop in Earnings from Commissions Presents Sales Problems

Commission selling at former percentages while prices are on today's unusually low basis, reduces the return to the commission house to a point where quality of service is threatened or a loss faced. No blanket solution to the problem has appeared. This article explains several means for dealing with the difficulty which may be applied to raw material, yarns or finished goods.

WITH the bulk of textile products sold on a commission basis the problem of greatly diminished returns to the selling house, due to lower prices, has been serious. Obviously, commissions based on 15 to 20c. cotton or $4.50 silk were more than twice what they are today with cotton below 7c. and silk around $2.00.

Three specific remedies have been offered and, in certain instances, put into effect. The first is to do away with the commission basis and substitute the "fee" system. The second is to increase the commission. The third is to work out a selling set-up that can function profitably on today's commission income. With nothing on the horizon that would indicate any marked increase in raw material values, something must be done by those selling houses which find themselves cramped by inadequate income, particularly since competitive conditions of today call for highly aggressive merchandising.

Those who have had experience with the plan of paying selling agents a retaining fee claim that this has many advantages over the usual method of payment by commission. In the first place, income is steady and it is possible to plan intelligently and budget expenditures. Selling on commission, the house never knows what income to expect and direction must necessarily be of the "opportunist" variety. Another advantage is that there is no temptation to pile up a lot of sales at low prices just to get the commissions. In fact, where a fee is paid it is practically the same as the mill selling direct, the only difference being that one mill in itself might not be able to sell direct economically and the selling house, therefore, acts as a group sales force.

Probably the most interesting example of the application of the fee system is afforded by a cotton goods selling house. Each mill pays the selling house a sum based on the amount of business that is expected in the ordinary course of events. The fee is supposed to cover the expenses of the selling house in merchandising the product of the mill, plus a nominal profit for the selling house. The mills include the fee as part of the overhead and figure costs accordingly. The selling house is assured of expenses and a small profit, and any further profit comes from a percentage of the profits the mill makes.

This feature of having the profit of the selling house directly dependent on the prosperity of the mill receives the greatest amount of favorable comment from those who have studied the plan. Undoubtedly, remuneration on a commission basis has been open to attack on the grounds that the selling house is more interested in the commission than the selling price the mill receives.

While it cannot be said that the fee system is a result of the drop in gross commissions received by selling houses, it has certainly received a greater amount of study and consideration because of the fact that many selling houses realize that certain adjustments must be made to meet the conditions brought about by low prices.

The second remedy for the situation is an increase in the rate of commission. Floyd W. Jefferson, of Iselin-Jefferson Co., is among those who advocate this change. Mr. Jefferson points out that the gross income of a selling house is now only about a third of what it was, and that it is ridiculous to have the same rate of commission in effect with 7c. cotton as with 20c. cotton. Instead of a flat rate, which now averages about 3½%, Mr. Jefferson suggests a sliding scale with periodical adjustments in accordance with the price of raw cotton.

Those who believe that higher rates of commission are necessary state that it is impossible for the selling house to have its income cut so drastically and still continue to give the same type of selling service. They also point out that although expenses in general have shrunk, they have not come down anywhere low enough to compensate for the drop in income.

Still another proposed remedy for the problem, is greater efficiency on the part of the selling house so that it can get along and do a good job of merchandising at today's price levels. Some men in the trade say that it is almost impossible to get the mills to change from the rates of commission that they have been accustomed to pay for years and that, therefore, selling agents might just as well make up their minds that they have to get along with the money now coming in and plan accordingly. These men state that though it may be a tough job to get expenses down to this basis, it must be done. The feeling is general that while it may not be possible to effect much of a cut in direct sales expenses such as salesmen's salaries, traveling expense, etc., without impairing the efficiency of the organization, real savings can be made in overhead, clerical work, etc.

An interesting development along this line has taken place in the yarn trade. One selling house has absorbed several others although each has kept a fair portion of its own identity. Changes in the selling force have been few, and the real change has been in overhead. Where there were previously, say, three organizations billing goods, checking credits, keeping books, paying rent, etc., there is now only one and the savings have been substantial.

With merchandising receiving the greatest amount of study of any of the industry's problems, the smooth functioning of a selling organization is a necessity. It is realized that merchandising plans cannot be pushed if the selling organization is hampered by insufficient income. The industry is going after the vital problem of commissions and changes of one sort or another will be necessary in many cases.

The merchandising discussion which appears regularly on this page considers various branches of the textile industry from week to week. It analyzes significant marketing trends or developments in those branches. While it covers current movements, its conclusions concern potential future significance of those movements, rather than the effect of temporary fluctuations in trade sentiment.

Style waits for no man . . .

Least of all for the weaver who lags in producing new samples or new fabrics. A day or two late is late enough to lose the order —for style changes are rapid and business is done on sudden decisions.

That's why weavers and knitters have come to rely on Quissett for sample yarns. And for new yarns for style fabrics. There's no loss of time on Quissett's part. Every facility of this big well-equipped mill snaps into action at a customer's behest. Difficult sample yarns have been delivered within twenty-four hours. Yarn in production quantities is in your mill ahead of reasonable expectations. All this to help you present your samples, get the order, and cash in on the new style fabric.

Even producers of fabric who operate their own spinning room have found this procedure more profitable than attempting to develop the new yarn themselves. Naturally, their own spinning department is not as highly geared as Quissett to the rapid style changes of today.

When you're asked for a sample fabric, don't delay — it may cost you the order. Let Quissett supply the yarn. A 'phone call brings a Quissett man to your mill.

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Cotton Yarns
AND
Quitex Spun Rayon

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Await General Move

LIMITED activity is found in cotton yarns. Especially is the carded yarn branch exceedingly quiet. Scattered interest appears usually at prices which are anything but attractive to spinners. Combed and mercerized yarns appear to face slightly improved conditions. On the whole, February closed with a rather poor record for sales as compared with either January or even December. Such sales as were made usually involved a price nearer the buyer's idea than the spinner's.

While conditions in certain sections are very quiet, selling organizations covering broad territories report an improved tone and a better attitude toward future developments. Spinners continue to display a firm attitude on the prices which they have as yet failed to realize in business accomplished. Spinners' ideas of prices are well above levels prevailing in selling markets. With 15 to 15½c. noted on 20-2 warps, dealers find it difficult to find a spinner willing to accept 15½c.; most of them ask from 16 to 16½c. One spinner points out that he is now paying a basis of 100 points more on his cotton than he did a year ago when this yarn was quoted at 21 and 22c., although he is willing to sell now at 16c. Certain spinners will accept 19½c. for 30s-2, with others asking up to 20½c., but it is hard to get as much as 19½c.

Carded knitting yarns are quieter than weaving yarns. Inquiry has fallen off recently. Quotations remain about where they were, with 10s framespun quoted by spinners from 13½c. up, and selling prices closer to 13c. More interest is said to be developing on coarse combed yarns because of an advantage in quality at little difference in price.

Single combed yarns therefore have been rather more active, with some effort to advance prices to a more favorable basis. Those dealers holding for the higher levels have usually found business escaping them. Quotations are noted on 12s at 18½ to 19½c.; 18s at 20 to 21c., and 30s around 26 to 27c., but buyers are as yet reluctant to meet these levels, and therefore are disposed to shop in an effort to secure a better price. Conditions in mercerized yarns show a decided improvement. Advanced prices on combed yarns are being reflected in mercerized yarn values, as well as the attitude of the leading processors. Whereas some weeks back it was possible to obtain these yarns at low prices, to-day there is a decided lack of any tendency to accept business on the slightest concession, and indications point to a decidedly firmer position in these yarns with a good chance for higher levels. Outerwear lines especially have been a factor in taking these yarns, and the outlook here is regarded as very favorable. Underwear demand is about winding up. Certain lines of full-fashioned hosiery are said to be well sold as well as infants' socks.

◆Reactionary Trend in Raw Cotton

THE demand for cotton would appear to have fallen off somewhat following the completion of February engagements, and while reports reaching here from the South indicate a generally steady basis, there have been moderate reactions in the futures market as well as a reduction in the volume of business. It is likely that something of a long interest accumulated during the progress of the February buying movement which, it may be recalled, was stimulated by the more optimistic views arising from the emergency credit legislation, and when the demand tapered off, considerable realizing developed. Offerings were absorbed by trade buying and covering on reactions of some 25 to 30 points from the high prices of February, however, and in the absence of any material pressure of spot offerings, the market has shown a fairly steady undertone.

Possibly the more active trade buying reported during the middle of February, supplied more immediate needs. There was a good deal of procrastinated price-fixing particularly from abroad and possibly some buying against end-season requirements, with a possibility that some buying programs were enlarged owing to the continued substitution of Indian for American cotton. The tapering off of the demand from such sources may mean that there is now a disposition to buy only on favorable opportunities or on a scale down, until a better idea can be formed with reference to coming acreage prospects and the

(Continued on page 58)

Market Briefs

Cotton: Easier trend in dull period.

Cotton Yarns: Movement slow; prices irregular.

Cotton Goods: Trade quiet; hope found in acceptance of curtailment program.

Wool: Quiet trade; some qualities easier.

Worsted Yarns: Orders inadequate to keep mills busy.

Woolen Goods: Fair spot call; fall openings delayed.

Silk: Poor buying weakens prices.

Silk Yarns: Light demand but better tone.

Silk Goods: Georgettes active; canton prints reviving.

Rayon: Orders decline; producers curtail.

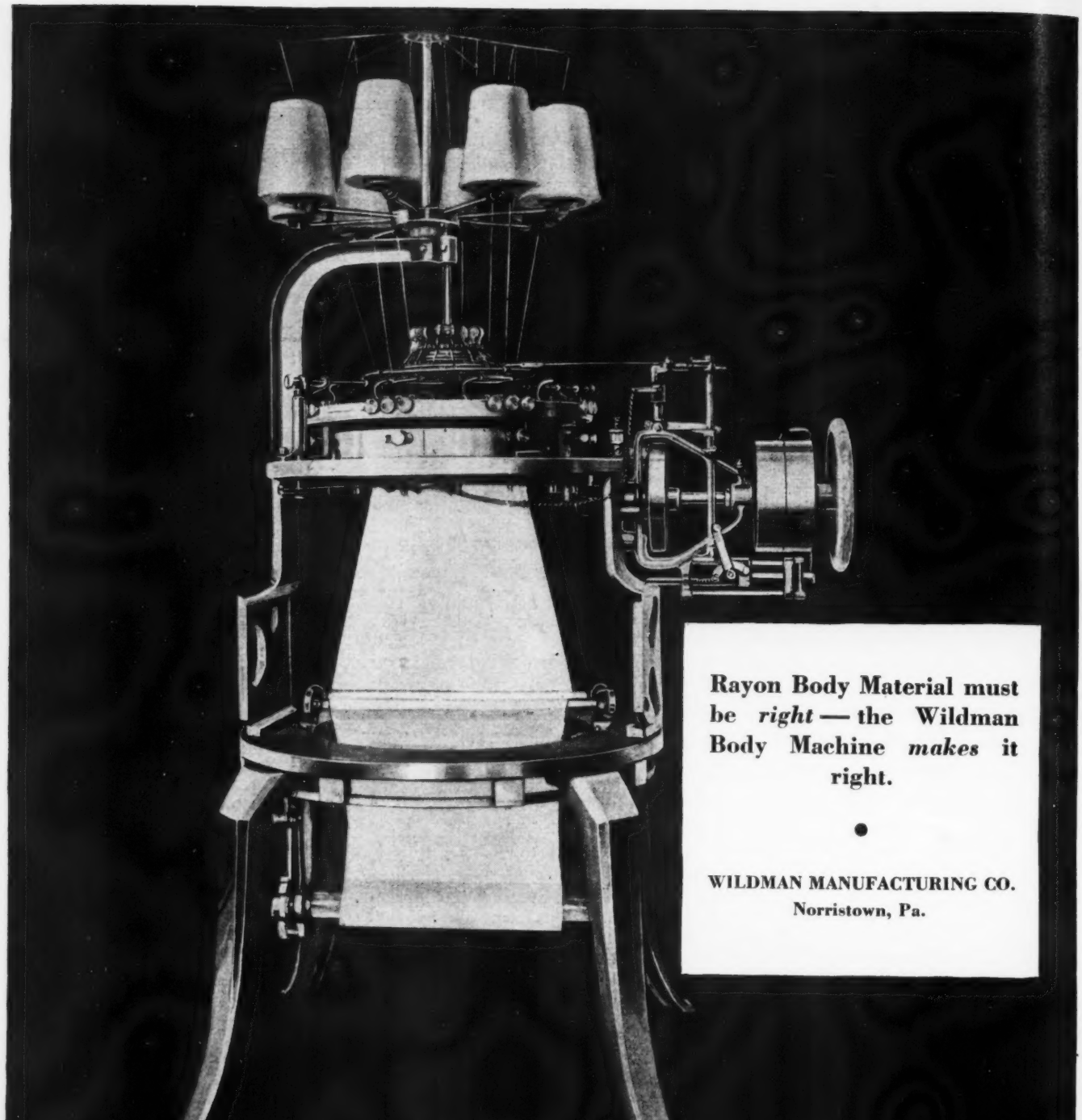
Knit Goods: Mesh hosiery boom seen affecting staples; fall underwear moves slowly; women's worsted sweaters prove profitable.

◆Worsted Yarns Offer Featureless Market

THE worsted yarn market continues to present a featureless appearance with little to break the montony which has pervaded the situation for some weeks. Any activity that makes its appearance is usually of short duration, or confined to certain specific localities or lines, so that there is no general development reported as yet. Demand for knitting yarns for immediate needs continues in fair volume. Yarn prices have not shown any further tendency to slide off, despite continuous pressure by certain factors, especially in the knitting trades. Spinners feel they have gone as far as they can, without jeopardizing still more their scant chance to break even. In fact there has been more or less suggestion of a determination to curtail operations or close down entirely, unless the situation improves as far as volume and price are concerned.

One of the best sources of activity recently has been women's sweaters. This line has been taking in yarns quite regularly, and while at times it seemed that this demand had about run its course, it suddenly developed further inquiry. However, the current entrance of rayon and mercerized yarns into this field is regarded as a signal for a decline in the call for worsted yarns. Swim suit business has developed in spasmodic fashion. Both specifications against contracts, as well as new business, have been coming along in fair volume at times, but there seems to be no sustained demand for the garments, so that there has been as yet no real broad call for these yarns. With the season developing rapidly as the weeks pass, there may be a serious situation sooner or later when knitters try to secure their yarns rapidly enough to enable them to make swim suit deliveries. As previously stated, the situation offers an opportunity to spinners to secure a firm market position on these yarns.

Efforts are reported on the part of certain knitters to place orders for skein-dyed single yarns on cones instead of slub-dyed yarns. This is rejected by spinners who are trying to operate at a profit. It is urged that skein-dyed yarns are more accessible to smaller knitters because of the possibility of purchasing them in smaller lots, say 100 or 200 lb. as needed. Spinners usually want orders for slub-dyed yarns to call for at least 500 lb. because of the necessity of making them up, and smaller operators are often unable to take such deliveries. However, an added cost is usually asked for skein-dyed yarns to cover dyeing, winding, losses, etc. With a slub-dyed single 18s at 87½ to 90c., a skein-dyed yarn on



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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

cones would be held at $1. This drive for skein-dyed yarn is not considered general since many spinners state they have not had the matter suggested to them.

Weaving yarns continue quiet. Dress goods mills working on piece-dyed woolens have taken small lots to fill in, but the season is about over since weavers meet complete delivery by about March 15. Men's wear yarns are showing only occasional interest. There is still a certain amount of sampling being done but several factors report this trade about as dull as they have ever seen it.

◆Sluggish Demand For Wool

ALTHOUGH wool is considered strong from the supply standpoint this has not prevented a slight easing off in prices on original bag wools and one or two of the graded sorts. This slight sag in prices on wools in largest supply is regarded as a normal movement in the light of the very slow consumer demand. However, large wool holders show a good measure of confidence as to the immediate future.

Buying of wool by mills continues on a small scale. Short combing wools of 64s and finer qualities comprise the bulk of the very moderate business. Original bag lines containing chiefly of short and average French combing staple sell at 49 to 51c., clean basis. Choice lines of good French combing and average strictly combing staple of the Montana type are held at around 54c. Half-blood and three-eighths-blood have been in slow demand. Prices are quoted usually in the range of 50 to 55c. for fair to choice territory combing wool and at 45 to 50c. for three-eighths. Quarter-blood combing wools have been in moderate request as have also low quarter-blood combing wools for knitting purchases.

Because of the sluggish movement of delaine and the fact that despite its low grease price it is still slightly higher on clean content basis than fine Texas and graded territory wools, some manufacturers are bidding as low as 22½c. for the delaine, more with the idea of testing out the market than of actually buying wool, it is said. Occasional offerings of quarter-blood fleece combing wools are available at slightly lower prices, but the volume is small.

Arrival of new clip wools in volume is still several weeks away. A little early shorn Arizona wool has been bought by Boston dealers not exceeding in total 500,000 lb., it is said. The clean landed price Boston was about 45c. per pound for this short French combing wool and on current market is considered on the high side.

◆Wool Substitutes Await Demand

RECOVERED wool manufacturers are paying close attention to the possibility of a generous expansion in business from the woolen mills in weeks ahead. It is felt that the industry has a fine assortment of wool substitutes to offer at bedrock prices and is confident that low values on good material will in the long run result in good business. As the old rag market has so little white stock to offer, graders can hardly do anything else than stand by.

Consuming interest in noils continues restricted and until the woolen mills begin to get some additional business on fabrics of the woolen order, the noil market is likely to languish for lack of attention with possibly easier prices on the fine qualities which at the moment are substantially higher than they were at the beginning of the year. Medium noils are in a firm position. Specialty noils are attracting attention, additional imports of white silk noils and of camel-hair noils arriving in Boston recently.

Wool wastes are not in active demand but prices are holding firm. Fine white drawing lap is the strongest spot in the market and is quoted 3 to 5c. per pound above similar wool clean basis. Manufacturers are taking their own time about coming into the market but dealers who have been making the rounds of the mills are unanimous in the belief that most manufacturers are short of stocks of suitable wastes.

◆Rayon Curtailment Follows Buying Drop

DETERMINED to hold stocks down to six or at the most eight weeks' supply, rayon manufacturers are planning further curtailment of output, it became known this week. Active demand through the first two months of 1932 brought production up to 80% of capacity; now the trend is downward and indications are producers will average between 60 and 70% during the remainder of the spring.

Demand continues healthy, and knitters in particular are placing good-sized orders. The total business from the underwear industry has increased slightly within the last two weeks, some firms report. Demand from the weaving trade is not so encouraging, however.

Producers do not look for any very spirited turnover during the second quarter, but are confident that the general tone will remain firm. The strong policy of holding stocks down to minimum is expected to help greatly in keeping prices steady.

◆Slight Improvement In Silk Yarns

A SLIGHTLY better tone was felt in the yarn markets this week, but neither throwsters or spinners spoke with any great confidence regarding the outlook. Broadsilk mills have been placing virtually no business with the thrown yarn mills and only a strict policy of curtailment in throwing has prevented accumulation of stocks. Hosiery manufacturers are interested and the past ten days brought a moderate quantity of spot business. There is much talk in the thrown silk market regarding the Japan boycott agitation but clearly buyers are not placing much belief in it, as the rumors have not spurred buying or firmed prices.

Good southern call for shantungs reported by a few weavers has helped silk spinners and the first call of the season for shantung yarns is reported. The season is starting at a time when it usually ends, and spinners are not offering any predictions about it. The spring has much upset their calculations; demand is so far below last season at this time that even percentage estimates would be unpleasant to dwell upon. Knitters are buying steadily for underwear manufacture but the total business at this end is small.

◆Raw Silk Declines Amid Hectic Reports

THROUGH a week that was rife with reports and contradictions of reports, the raw silk market has remained weak and indifferent, with prices going steadily downward and buying so light as to be almost negligible. Tonics in the form of cables advising stronger tone in Japan brought rallies but these were momentary. Current prices are 15 to 25c. below last week, and the market outlook is exceedingly uncertain. Broadsilk manufacturers refuse to place business, a natural policy considering the downward trend in the primary market; hosiery knitters have sufficient raw silk for immediate needs and are not covering ahead. The dress trade strike has added somewhat to the hesitancy of the weavers.

Importers grew hopeful when reports this week told of an armistice in the Orient, but when the next day brought a negation of the reports, they gave up all effort at prognostication, and sat back quietly waiting. The boycott agitation is widely discussed in the trade; dealers do not regard it as a serious problem as yet, though they admit it might become so if it won popular response.

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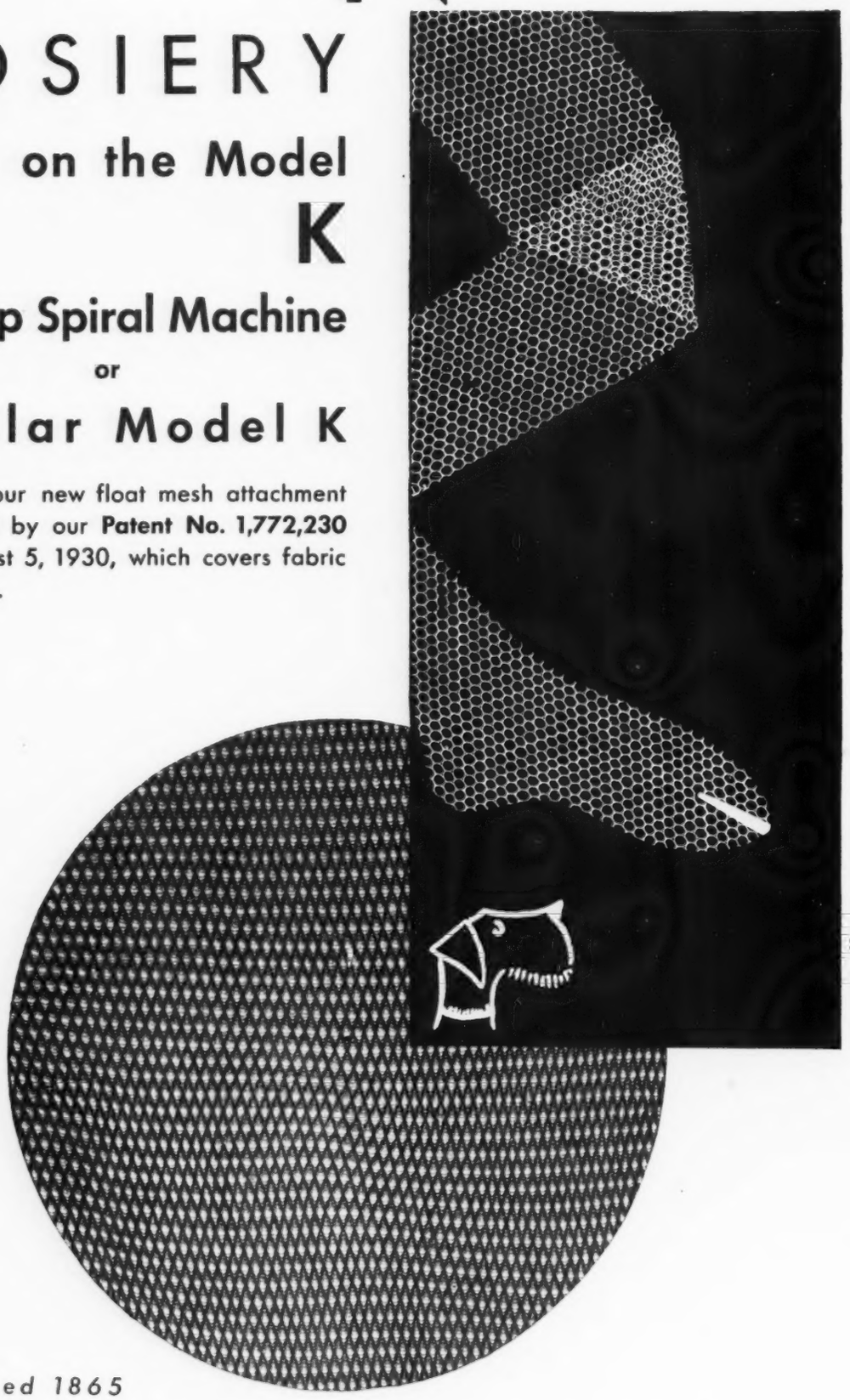

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FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆ Progressive Programs Help Cotton Goods

THE cotton goods trade learned on Wednesday of the success of the Cotton-Textile Institute in continuing its program against the night employment of women and minors for another year beginning Mar. 1. The Institute obtained support from 86% of the industry as a whole for this humanitarian program, and 82% of the night-running mills accepted it. The emergency curtailment program, involving curtailments of 10 to 25% in the print cloth group depending on the number of hours customarily operated, has also met favorable acceptance and is now in effect.

The hope which the two programs mentioned above gives to buyers of cotton goods that they will not be flooded with excess yardage and cut prices, has stabilized the market this week during a period when actual business has been slow. Early in the week buyers were in evidence in the print cloth market with inquiries designed to check prices rather than to acquire goods. They found that some second hands were offering goods at $\frac{1}{16}$ to $\frac{1}{8}$c. below first hand quotations. Despite this underselling first hands were generally firm. Buyers who sought nearby deliveries of 72x76s found the market cleared out for current month and April quoted at $5\frac{3}{8}$c. First hands held March deliveries of 64x60s at $3\frac{7}{8}$c. with April and beyond at 4c. This premium on future delivery, which was one of the hopeful signs found in the market a week ago, persists and gives sellers a more rosy outlook than they have had for a long period.

Sheetings were dull this week. Quick deliveries of 6.15-yard, 40-squares were firm at 3c., lower priced goods having been cleared out of the market last week. Drills were also quiet although some sales of 3.95-yard goods were reported.

On Monday an advance was announced on leading lines of 4/4 bleached cottons. The new basis places Hope at $7\frac{7}{8}$c., and Lonsdale at $9\frac{1}{4}$c. net. This advance has been due for several weeks and follows the advances made in percales and some other lines. It was the experience of those who advanced prices earlier that, far from restricting sales, the higher prices brought buyers into the market more promptly.

It is believed that retail distribution during February was particularly small. Since this follows some four or five months of restricted business, it is likely that consumers' shelves are abnormally depleted and that replenishment is likely to come with the opening up of the spring retail season around Easter-time at the end of March. Cotton goods retail prices are lower than they have been for many years, and, according to all past experience, should result in a fair volume of trade despite reduced purchasing power among consumers.

The approaching settlement of the strike in the New York garment industry should help in the distribution of goods to this field as some houses noticed a let-up as the strike went into effect several weeks ago.

Several commission houses report inquiries for gray goods for delivery during the summer months and although little business is being done so far ahead the fact that important users are showing interest is held to be an optimistic sign.

◆ Wool Goods Mills Expect Late Rush

A CROWDED end-of-the-season business faces certain of the wool goods divisions with possibility that firms may have difficulty in filling orders on more popular lines, it appeared evident this week. Cutters of men's suitings have been buying steadily but all contracts are so small that they would be cleared out quickly, if any real pick-up took place at the garment end. The volume of spring suitings sales to date has been small and some firms are turning to the women's wear fabrics, hoping to gain the difference there. Mill representatives are doubtful about that policy, asserting that there is little to choose, so far as price stability is concerned, between the two markets.

Suitings houses have their fall plans pretty well under way, but there is a strong sentiment in favor of delaying the openings. With much of the spring business yet to be placed, weavers do not want to rush the new season until they are sure spring fabrics are definitely on the wane. There will be few important openings of fall lines prior to the beginning of April.

Topcoatings are easier, but mills have a good quantity of business on the books and the situation is good. Current buying of these fabrics is lighter than February, orders being limited to fill-in business. Cutters of topcoatings are not interested just now, as they are busy cutting their spring fabrics.

◆ Low-Priced Silk Fabrics Active

BOTH cutters and retailers were in the market for broadsilks this week, the dress trade strike having affected fabric sales much less than was expected. There is a healthy call for the low-priced georgettes, chiefly plains, interest centering on blue, black, white and brown. Fabrics in the 55c. to $62\frac{1}{2}$c. range were preferred. Cantons have been moving, also at the cheap end; spot buying is the rule, cutters asking delivery two to three days after placement of orders. The trade has begun to sample chiffon prints, and good business in this range is expected later in the month; the new chiffon offerings give more attention to small designs and manufacturers predict a strong leaning in this direction when prints get fully under way.

The early clearance of printed cantons by many mills proved a boon to those who stayed in, as there is a good call for these fabrics now and prices are firm at levels allowing of fair profit. Pure dye plain cantons are weakening, due to a surplus of goods on the market. Shantungs show improvement, especially those going to southern retailers; some shantung fabrics are selling ahead. The shantung demand, which came so late that some had regarded it as virtually dead, is still an unknown factor; northern demand has not yet developed and the prospects at that end are uncertain.

▸ Hull and Cravenette Companies Move

The Cravenette Co., rainproofing, and R. W. Hull Co., cloth shrinkers, formerly at 575 Albany Street, Boston, Mass., have removed to 16 Macallen Street.

▸ Fashion Lecture Schedule Now Complete

Additional speakers have been announced for the course of six lecture conferences on fashion merchandising to be given at the Metropolitan Museum of Art, New York, from 5 to 6:30 o'clock March 1, 8, 15, 22, 29 and April 5. These lectures are sponsored by the Fashion Group in cooperation with the Metropolitan Museum. The revised schedule of lectures and lecturers follows: Miss Grace Cornell, March 1; Mrs. Edna Woolman Chase, editor-in-chief of *Vogue*, Mrs. Mary Brooks Pickens, fashion consultant, and Miss Margaret Case, editor of *Vogue*, March 8; Miss Cornell, March 15, Miss Virginia Hamill, decorative arts consultant, Miss Helen Koues, head of *Good Housekeeping Studio*, and Miss Priscilla Wiley, vice president of Murrill & Co. Inc., March 22; Miss Cornell, March 29; the final lecture, April 5, will be given by Miss Dorothy Shaver, vice-president of Lord & Taylor, Miss Helen Cornelius, of *Harper's Bazaar* and Mrs. Margaret Dargan, stylist for R. H. Macy & Co.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Winter Underwear Faces Slow Season

MOST of the mills which had scheduled their fall underwear lines for February, are now showing; the belated ones held "open house" for buyers last week-end and at the beginning of the current week. Buyer response is so lukewarm as to be practically negligible, and it looks as though this year will see the latest heavyweight underwear season on record. Manufacturers who have not yet shown their lines and this includes some who will open as late as April, say they do not look for any big volume call before September.

While this may seem a bit extreme, there is no question but that the season will be delayed to the last minute. Neither wholesalers nor retailers will buy any merchandise that does not offer immediate turnover, and heavyweight underwear mills may expect a very congested demand toward the end of the summer.

Manufacturers plan a rigid curtailment of output, and production for the next few months will be largely restricted to samples; this policy should help to hold prices firm.

Meanwhile, lightweight underwear is in good call, and some firms are selling two to three weeks ahead. The main cotton and rayon lines move actively, both men's and women's. Contracts are larger than they have been and buyers show more confidence. Prices of quality lines are steady, but there has been some weakening in cheaper lines.

◆Swimsuit Sales 50% Below Normal

THE first week of March found the bathing-suit industry so decidedly backward in 1932 sales, that great caution is necessary if mills are to make even moderate profit on the season's turnover. While no actual figures are available, it is estimated that swimsuit sales are at least 50% below what they were this time last year. Certain of the large companies have adopted curtailment programs in line with this condition, but the reduction is not general enough, as yet. Stocks are accumulating and already knitters are making price concessions to force sales.

The decline reported in bathing-suit yarn orders is encouraging as pointing toward realization of the need for more cautious production. Bathing-suit manufacturers are coming gradually to accept the fact that their 1932 volume will be a last-minute proposition, with the bulk of business being placed after Easter and even maybe as late as May. While this will inevitably mean loss of orders to some firms which have limited capacity, reckless output just now is no solution.

Numerous firms plan to emphasize style in certain new numbers which will hold off the market until the strategic time. This appears a sound policy. Distinctive and original styles will find a good and quick market, once the season opens.

Women's worsted sweaters are the chief money-maker of the moment; demand continues steady and prices are firm. Men's sweaters are less active.

◆Spirited Easter Hosiery Call

THE best part of current hosiery sales both as regards volume and profit falls in the medium-price range. This is due largely of course to the important position of women's mesh, but there is also a healthy demand for staple full-fashioned hosiery for pre-Easter shipment. New York sales executives talked cheerfully this week of the Easter prospects; they look for even greater impetus on the lace-tops, mesh and other novelties, and a steady though less spirited call for men's and women's staples. Women's mesh hosiery sells three weeks in advance; leading manufacturers of the medium-price mesh lines this week said the bulk of the demand was for stockings retailing at $1.50, with a steady though smaller call for the $1.95 line.

The same spokesmen expect the mesh boom to cut into staple hosiery sales very considerably this spring; such comment is significant as up to date manufacturers of both lines have insisted that mesh was not competing with staples.

The week brought a better demand for half-hose, with orders spreading through the low-price and the intermediate ranges. Fancies of subdued design continue the best-selling numbers. Prices while not too steady, have improved somewhat, thanks to increased demand. Stocks are overabundant, at the low-priced end particularly; there is greater interest in style; and half-hose which is distinctive and original finds a fairly good market.

The call for self-supporting half-hose has grown during recent weeks and may prove a significant spring trend. One firm, which was a pioneer in this line reports that 40% of its Easter half-hose business is in this division. This company has been very successful with its elastic top sox; there does not seem to be much competition, as numerous knitters who tried the same product failed to make a go of it because of defects in manufacture.

Children's and infants' lines hold steady, with orders running well into the warm weather and prices firm.

◆Raw Cotton Report

(Continued from page 53)

attitude of spot holders as the planting season approaches. In view of the large supplies of cotton which must be still available in the South any material weakness of the holding movement which has been a sustaining feature during the entire season might lead to quite a sharp decline, but otherwise the trend of end-season values will doubtless be determined by the shaping up of new crop prospects and the further development of trade conditions.

It is still too early for anything more than the most tentative ideas of the coming acreage. One of the private crop reporting bureaus has made a preliminary canvass regarding planting intentions which points to a decrease of about 14.7%, but it is doubtful whether individual farmers are yet altogether certain as to how much land they will put under cotton this spring. The season is late so far as farm work is concerned owing to the rains of January and February, but preparations have been making better progress under more favorable weather conditions during the last week and with another two or three weeks of good weather somewhat more convincing reports may reach here with reference to acreage prospects. In the meantime, there appears to be a wide divergence of opinion as to the extent of the probable curtailment as compared with last year. Figures are heard ranging all the way from under 10 up to 20% or over, the outside figures being based chiefly upon the anticipated force of economic conditions.

There is quite a general feeling that yields per acre will show a sharp reduction following the unusually big outturn last year. According to the New York Cotton Exchange Service, sales of fertilizer tags for seven cotton growing States from Dec. 1 to Feb. 29 totaled only 295,000 tons compared with 519,000 in the same period last season.

◆Waste Prices Continue Firm

WHILE actual volume of business transacted in cotton wastes is still far below normal, the improved sentiment which has been apparent during recent weeks is being maintained. The strength shown by raw cotton during the latter part of February has had a salutary effect upon wastes.

Dealers handling white Upland strips and soiled card strips report greater interest on the part of southern mills using these wastes in the products. The former waste is used quite extensively as a substitute for cotton in automobile cloths.

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

◆B. B. & R. Knight Records Less Loss

THE B. B. & R. Knight Corp., and subsidiaries, Providence, R. I., report for the fiscal year ended Dec. 31, 1931, consolidated net loss of $468,692, after all charges, including depreciation of $140,215. This compares with a net loss of $931,746 in 1930, and a net loss of $1,137,886 in 1929. The net loss for the parent company alone totaled $354,207 in 1931, against $876,980 in 1930. The balance sheet of the corporation as of Dec. 31, 1931, showed current assets of $2,316,445 and current liabilities of $1,084,408, a ratio of about 2¼ to 1, leaving working capital of $1,232,037, which compares with working capital of $1,379,512 as of Dec. 27, 1930.

In his report to stockholders, President G. Edward Buxton outlined the various adjustments and economies effected during 1931, and stated that yardage sales increased 24% and dollar sales 6% over 1930.

Nashawena's Loss Smaller

For the year ended Dec. 31, 1931, Nashawena Mills, New Bedford, Mass., reports a net loss of $287,623, after depreciation charges of $161,099. For the first nine months of the year the company showed a manufacturing profit, but operations in the final quarter wiped out the gain, and for the whole year there was a manufacturing loss of $126,524. In 1930, when no depreciation was charged, there was a manufacturing loss of $278,582.

The balance sheet as of Dec. 31, 1931, showed current assets of $2,027,333, and current liabilities of $1,138,218, leaving working capital of $889,115, as compared with working capital a year ago of $1,036,004. Stockholders have voted to reduce the capital stock of the corporation from $100 to no par, and, after giving effect to this change, surplus account stands at $7,890,076, as compared with surplus of $677,699 at the close of 1930.

Nonquitt Mill Loss

Nonquitt Mills, New Bedford, Mass., reports for the year ended Dec. 31, last, net loss, after charges, of $168,932, which compares with net loss of $244,482 in 1930. The balance sheet as of Dec. 31, 1931, showed current assets of $373,790 and current liabilities of $58,000, leaving net quick assets of $315,780, whereas at the close of 1930 net quick amounted to $482,510. Surplus account was off $168,932 at $2,602,068 and inventory account was down from $456,183 to $317,250.

Newmarket Has Better Year

Newmarket (N. H.) Mfg. Co. reports for 53 weeks ended Jan. 2, 1932, a net loss of $100,470 after depreciation, and inventory markdown, but before $58,581 markdown not due to the year's operations. After allowing for the latter charge, there was a net decrease in surplus of $159,051. For the year ended Dec. 27, 1930, the company reported a net loss of $626,464 after depreciation and inventory markdown. The balance sheet as of Jan. 2, last, showed current assets of $1,693,257 and current liabilities of $427,554, leaving net quick assets of $1,256,704, as compared with working capital a year before of $1,277,039.

Taber Separates Units

Taber Mills, Inc., New Bedford and Taunton, Mass., reports for the year ended Dec. 31, 1931, net loss of $326,588, after inventory markdown of $221,441. At their annual meeting, stockholders voted to form a new corporation, to be known as the Riverside Mills Corp., to take over the Taunton property. All of the stock of the new corporation will be held by Taber, but the two properties will be operated independently in the future.

Cleveland Loss Smaller

The Cleveland (Ohio) Worsted Mills Co., for the year ended Dec. 31, 1931, reports a net loss of $341,482, as compared with a net loss of $2,294,127 in 1930, and a net loss of $678,346 in 1929. The company is in a strong financial position, the ratio of current assets to current liabilities at the close of 1931 being 17 to 1. Annual stockholders meeting is set for March 9.

Ludlow Mfg. Profit Off

Ludlow (Mass.) Mfg. Associates report for the year ended Jan. 2, 1932, net profit, after charges, of $96,694, as compared with a net profit in the previous year of $116,977. Unit sales for the period showed an increase of 6%, but dollar sales at $11,007,000 were off $2,700,000 from 1930. The company is in a strong financial position, with over $51 per share in cash and short term securities.

Adams-Millis Shows Profit

The Adams-Millis Corp., hosiery, High Point, N. C., report for the year ended Dec. 31, 1931, net income of $858,746 after depreciation and taxes, which compares with net profit in 1930 of $906,035. As of Dec. 31, 1931, the company had current assets of $2,828,710 against current liabilities of $653,730, a ratio of 4.3 to 1.

Declares 4% Dividend

Standard-Coosa-Thatcher Co., Chattanooga, Tenn., according to the annual report of T. H. McKinney, vice-president and general manager, presented at the annual meetings of stockholders and directors, has placed its spinning mills back on full time operating schedules. It was explained that spinning had been running at about 85% of capacity during November and December. A dividend of 4% was declared and all officers and directors were re-elected.

Courtaulds Makes Profit

The preliminary announcement by Courtaulds, Ltd., for the year 1931 reveals a profit of £1,101,587 against £2,274,408 in 1930. Final dividend to be paid to the ordinary shareholders is 3% making 5% for the year against 6% last year. Due to the heavy decline in general value and to the present world conditions, the directors have depreciated their overseas interest to the extent of £1,000,000.

Boston Stock Auctions

The following sales of textile shares were made at auction in Boston, Feb. 24:

Shrs.	Mill	Par	Price	Change
2	Esmond, pfd.	100	74	—24
2	Arlington	100	12¾	— 2¾
24	Bates	100	10	—50
93	Berkshire, com	...	1¼	—11¾
7	Boston Woven Hose, com.	100	17	.....
54	Exeter Mfg. Co.	100	5	.....
182	Total			

▶Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended. March 1.

	High	Low	Last Sale	Net Change
American Woolen	5⅛	4⅛	4⅛	— ⅛
American Woolen. pfd.	30⅜	25⅛	29⅛	+ 2⅛
Belding-Heminway	4⅛	3⅞	4	.....
Cannon Mills	18	18	18	.....
Century Ribbon	5⅛	5⅛	5⅛	— ⅛
Collins & Aikman	9⅛	8	8⅛	— ⅛
Consolidated Textile	⅜	⅜	⅜	.....
*Courtaulds, Ltd.	5⅛	5⅛	5⅛	— ⅛
Duplan Silk	10	10	10	+ ⅛
Gotham Hosiery	11⅛	10⅛	10⅞	+ ⅛
Industrial Rayon	36⅛	30⅛	35	+ 3
Kayser, Julius	9⅛	8	8	— ⅛
Kendall, pfd.	38	38	38	.....
Mallinson	⅜	⅜	⅜	.....
Mohawk Carpet	9	8⅞	9	— ⅛
Munsingwear	15	15	15	+ 3
Pacific Mills	10	10	10	+ 1⅛
Real Silk Hosiery	3⅛	3⅛	3⅛	+ ⅛
*Tubize	3⅜	2⅜	3⅛	+ ⅛
United Piece Dye Wks.	9	8⅞	9	— 1
Van Raalte	7	7	7	—24⅛

*Listed on Curb.

▶New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd.	50	45	..
Amoskeag	3⅛	..	..
Arlington	12¼	10	15
Associated Textile	10	..	10
Bates	10	9	..
Berkshire Associates, com.	1⅛	1	2
Berkshire Associates, pfd.	40⅛	7	..
Bigelow-Sanford, com.	17	..	..
Edwards	80⅛	40	45
Farr Alpaca	27	15⅛	17⅛
Hamilton Woolen	50	42	46
Hill	7	2	5
Ludlow	56⅛	44	49
Merrimack, com.	3⅛	3	..
Nashua, com.	3⅛	3	6
Nashua, pfd.	29	15	..
Maumkeag	50	46	50
Newmarket	5	8	11
Otis	45	35	40
Pacific	9⅛	..	..
Pepperell	34⅛	33	36
Plymouth Cordage	49	47	50
West Point	35	32	..
York	8⅛	4	..

Voiding of Westcott Patent Is Based on Lack of Novelty

TWO suits brought by the Westcott Hosiery Mills, formerly of Dalton, Ga., but now of Indianapolis, Ind., against Rich's, Inc., Atlanta, Ga., department store, and Julius Kayser & Co., knit goods manufacturers, and J. Regenstein and the J. R. Beaton Co., Inc., alleging infringement of patent, have been dismissed by Federal Judge E. Marvin Underwood of Atlanta, Ga., in denying the validity of the Westcott patent. This decision has been awaited eagerly by hosiery manufacturers; since the patent was challenged, however, consumer call for the so-called grenadine hosiery involved, has greatly waned, and the significance of the decision is less than it would have been.

The two suits, which by agreement of the parties involved, were tried together, were founded on an infringement of United States Letters Patent No. 1,759,561, granted to David H. Young, assignor to the Westcott Hosiery Mills, on May 20, 1930, for "a knitted fabric and a knitted stocking composed of lustrous counter-twisted yarn." The patent application was filed on Jan. 9, 1930, and, on the applicant's request, was made special and was rapidly passed to consideration. On April 16, 1930, the examiner rejected the claims as "devoid of invention." Whereupon amendments and arguments were filed by the applicant on April 21, and on April 23, 1930, the patent was allowed.

The original bill of complaint was filed by the Westcott Hosiery Mills on July 11, 1930. In it, the Westcott company charged Julius Kayser & Co. and the J. R. Beaton Co., Inc., as manufacturers, and Rich's and J. Regenstein's, as retailers, with infringement of the patent secured, in making and selling hosiery of a dull finish and made by the same process.

Julius Kayser & Co. was not served and did not appear in the case.

However, the other three companies filed a reply in which they admitted infringement of patent, if the patent were valid, but denied the validity of the patent for want of novelty and inventiveness. The case, therefore, rested with whether the patent could be held valid or not.

The case thus rested on one of the seven claims made for the patent—Claim 3—which reads as follows: "A knitted stocking containing a silk yarn composed of a plurality of threads each thread having been given a twist in one direction in the first time spinning and the final yarn having been given a lower twist in the opposite direction said individual threads having been given a twist of the order of 32 to 48 turns per inch and said yarn a twist of the order of 28 to 44 turns per inch."

The validity of this particular clause, according to the Westcott Hosiery Mills, would be all that was necessary to sustain the patent, and, in consequence, the suits.

Judge Underwood, in his decision, pointed out that patentability of an idea or device depended upon (a) its usefulness and (b) its novelty or invention. He admitted the usefulness of the patent in producing dull finish hosiery such as was in popular demand at the time. But he denied that the patent had novelty amounting to "invention or discovery."

Among other things, he made the statement that twisted and counter-twisted silk yarn was no novelty to the trade, but had been used for many years in the production of grenadine, and even in the production, at former times, of hosiery. Consequently, while he admitted the plaintiff's hosiery to be useful and excellent, he did not consider it to be sufficiently new or novel to warrant a patent, and the patentability of the hosiery was denied.

To date, no appeal has been taken from the decision of Judge Underwood, and, in view of the fact that the demand for dull finished hosiery has about ceased, it is not expected in the trade that the case will be carried further.

Silk Leaders in U. S. and Japan Study Boycott Agitation Here

WITH the news this week that the agitation for an economic boycott of Japan had crystallized in the organization of a body known as the American Boycott Association, silk leaders both in this country and Japan took steps to consider the problem. Japanese filature owners were understood to be bringing pressure on military authorities to end Shanghai hostilities, and also planning to send special representatives to this country to explain the Japanese position in China. Thomas B. Hill, president of the Silk Association of America, called a meeting of silk trade leaders at the Empire State Luncheon Club, New York, to decide whether the problem called for any action; this meeting was attended by Paolino Gerli, vice-president of E. Gerli & Co., Inc.; Henry Stehli, vice-president of the Stehli Silks Corp.; J. Weber, vice-president of the Bloomsburg Silk Mill; E. Irving Hanson, president of H. R. Mallinson & Co.; Charles Cheney, chairman of the board of Cheney Bros.; B. Edmund David, president of B. Edmund David, Inc.; James Goldsmith, president of Hess, Goldsmith & Co., and H. Schniewind, Jr., president of the Susquehanna Silk Mills.

Reports, later contradicted, to the effect that a Sino-Japanese armistice had been concluded, determined the silk men in New York to suspend action in the matter. Meanwhile, the New York raw silk market which had been very weak throughout the hectic rumors from the Orient, strengthened considerably in mid-week.

Trade opinion is pretty well reflected in the following statement made to TEXTILE WORLD this week by Paulino Gerli, of E. Gerli & Co., one of the largest importers of Japanese silk:

"Boycotts are apt to be real industrial measures in the Oriental countries, but in such an enlightened country as ours, I am confident, it will not receive popular support. We must understand clearly the difference between embargo and boycott—an embargo is an official action taken by a government and it goes without saying that any embargo if it were decided upon by our government, would receive full support of the silk industry in America.

"However, a boycott is not official in any sense, and we trust and rely on the judgment and fairness of the American people in this present agitation. We are sure they will see the serious harm which would incur not only to American industry but to international relations, if such a step were taken."

▸ New Knitted Overcoatings To Feature Fall Lines

Increased competition in overcoatings has stimulated the technical departments of wool goods mills, and some important developments in new fabrics are winning attention among apparel manufacturers this season. The progress made by knitters of overcoatings is particularly significant, and the new lines promise to occupy a foremost place in the fall market.

Continental Mills, Inc., of Philadelphia, a pioneer unit in knitted overcoatings development, have produced several interesting new numbers, among them "Valpaca," a dual-knit construction fabric. This fabric has a close-lying, high-napped "face," which is looped into and interlocked in a sturdy base, the base serving as a binder and a cushion for the top surface fibers.

Through the use of a blend of fine fibers, chief of which is the long, smooth hair of the South American alpaca, this overcoating possesses lustrous surface.

A test made of the fabric by the Industrial By-Products & Research Corp., established, according to this company's report, that the fabric "showed no appreciable change when exposed to rays of a standard Fadeometer for 48 hours (equivalent to 158 winter days)"; the fabric also responded satisfactorily when tested for dry cleaning, water treatment, abrasion and shrinkage. It showed resistance to crushing and rated high for heat retention.

▸ 250 New Fabrics Developed By Durene

More than 250 new fabrics have been developed by the Durene Association of America, it was announced last week by Ernest L. Starr, director, in a review of the achievements of the organization.

▸ Gerli-McCullaugh Group Control Belding-Heminway

Control of the Belding-Heminway Co., silk manufacturers, passed into new hands on Tuesday at the annual meeting of stockholders, in Putnam, Conn. A committee headed by Paolino Gerli, of E. Gerli & Co., and John Nash McCullaugh, general manager of Berkshire Knitting Mills, proved to represent a majority of stockholders when votes were polled.

This committee presented an amendment to the by-laws permitting the board of directors to be enlarged from nine to 11. Thereupon Frank C. Fisher, of Hughes, Schurman & Dwight, of New York, representing the stockholders' committee, presented his slate of directors, and they were unanimously elected.

In addition to Paolino Gerli and John Nash McCullaugh, the Belding board now consists of the following: Emanuel Gerli, president, and Joseph Gerli, vice-president of E. Gerli & Co., Inc.; Thomas E. Kavanaugh, vice-president in charge of operations of the Belding Heminway Co.; J. W. Cutler, of E. B. Smith & Co.; Richard E. Dwight, senior partner of Hughes, Schurman & Dwight; Arthur H. Woodward, of E. C. Trowbridge; H. Morton Merriman, a former president of the company, and Jos. J. Drasba.

▸ Hosiery Group Meets March 8 in Chattanooga

A regional meeting of members of the National Association of Hosiery and Underwear Manufacturers located in Alabama, Georgia, Kentucky, Louisiana, Tennessee and Texas has been called for Tuesday, March 8, at 10 a.m. at the Read House, Chattanooga, it is announced by Earl Constantine, managing director.

All hosiery and underwear manufacturers in these States, including both members and non-members of the association, are invited to attend to discuss trade problems in that section. The meeting also will permit Mr. Constantine, newly appointed executive officer of the association, to meet manufacturers in that territory.

▸ Sees Good Canadian Textile Trade Ahead

Canadian textile mills are operating at about 90% of capacity and have good prospects for 1932 according to Ralph E. Loper, industrial engineer, who recently returned from Montreal.

"Stocks in the hands of converters, wholesalers and retailers are low and the mills are in a strong liquid position," he said in discussing the situation. "Canadian mills," he continued "have maintained their plants well and have kept them up-to-date. No country in the world with the exception of the United States has so large a percentage of automatic looms as Canada. Fifty per cent of their loom equipment is of the automatic type. The Canadian textile industry can be depended upon to give a good account of itself as business conditions return to normal."

▸ Plans Complete for Committee D-13 Meeting

Program for the meeting of Committee D-13 of the American Society for Testing Materials at the Biltmore Hotel, Providence, R. I., Mar. 10-11, has been completed. In addition to sub-committee sessions on Mar. 10, Prof. Geo. B. Haven will present a paper on his study of machines for burst test on knitted fabrics. At the banquet that evening the speakers will include R. B. Watrous of the Providence Chamber of Commerce and C. H. Clark of the U. S. Institute for Textile Research. Among the features at the general session on Mar. 11 will be a paper by Prof. Willis on "Some Factors Influencing Spinning Quality of Cotton."

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Feb. 27, based upon data compiled by Dept. of Agriculture, follow:

	Week Ended Feb. 27	Total to Date 1932	Total to Date 1931
Domestic	438,000	10,381,000	10,994,000
Foreign	202,000	7,822,000	8,774,000
Total	640,000	18,203,000	19,768,000
IMPORTS AT PRINCIPAL PORTS			
Boston	202,000	7,822,000	8,774,000
Philadelphia	1,059,000	6,275,000	4,545,000
New York	1,309,000	7,100,000	8,368,000
Total	2,570,000	21,197,000	21,687,000

▸ Twine Standards Simplified

A general conference of representatives of manufacturers, distributors, and users of flax and hemp twines, held in New York, N. Y., under the auspices of the division of simplified practice of the Bureau of Standards, approved a simplified practice recommendation covering these commodities.

▸ Nashua Offers New Line of Permanent Finish Swiss

A new line of printed swiss which will sell at 25c. or more retail is now being produced at Nashua (N. H.) Mfg. Co. The fabric has the same permanent crisp finish as used on organdies and is styled in small unique fashions typical of swiss, batiste and organdies. The line ranges from tiny rosebuds and quaint little flowers to larger designs.

▸ Colonial Color Series Announced

In commemoration of the two hundredth anniversary of the birth of George Washington, the Textile Color Card Association has just issued a collection of Colonial Colors.

Business News

Charles P. Gulick Made President of National Oil Products Co.

Charles P. Gulick has taken office as president of the National Oil Products Co., Inc., Harrison, N. J., large producers of processed oils. Mr. Gulick succeeds M. A. Richards, who has retired because of ill health and who now holds an honorary position of chairman of the board. Ralph Wechsler was elected treasurer, and Albert A. Vetter was elected a member of the board of directors.

Mr. Gulick, who was one of the founders of the National Oil Products Co., formerly held the position of treasurer and general sales manager. He is widely known throughout the textile, glue and paper industries, and was recently elected first president of the sulphonated Oil Manufacturers Association, a national trade body.

The inception of the National Oil Products Co., dates back to 1876 when the Turkey Red Oil Co. was formed with offices in Newark. This company was taken over by the National Red Oil & Soap Co., of Newark, in 1907, of which Mr. Gulick was the founder. In 1912 the name was changed to the National Oil Products Co., and offices and plant moved to Harrison, N. J.

In addition to producing sulphonated, emulsifiable and soluble oils for many industries, the National Oil Products Co. supplies a vitamin D concentrate under a patented process acquired from Columbia University in 1927.

The newly elected board consists of C. P. Gulick, president; John H. Barton, vice-president; G. Daniel Davis, secretary; Ralph Wechsler, treasurer; Albert A. Vetter, Stuart R. Reed and William A. Coolidge.

F. D. Saylor To Promote Circular Loom

Frank D. Saylor has severed connections with the Saylor Electric & Mfg. Co., which he organized and directed for 28 consecutive years, and is now devoting his entire attention to the manufacture and sale of the Saylor circular loom and other special textile machinery and devices in association with his son. The firm name adopted is Frank D. Saylor & Son, with headquarters at 166 Rhode Island Ave., Detroit, Mich. The circular loom has never been offered for sale before. It is adaptable to tubings in diameters up to 2 in. and is designed for high rate production. The patents on the loom are held by Mr. Saylor.

Rusco Announces A. P. I Belting

A new belt for use in drilling and pumping operations in the oil fields is announced by the Russell Mfg. Co., Middletown, Conn., manufacturers of Rusco brake linings and other fabric products. The new belting has been developed especially to meet the specifications of the American Petroleum Institute for solid woven cotton belting to sell at a price appealing to those operators who seek maximum operating economy.

QUOTATIONS

at close of business, March 3, 1932
Prices cover average qualities unless otherwise stated

Cotton Goods

	Mar. 3	Feb. 24	Mar. 4 1931
PRINT CLOTHS			
27 -in., 64x60, 7.60	2 13/16c.	2 13/16c.	3½-4c.
38½-in., 64x60, 5.35	3¾-4 c.	3¾-4c.	5⅛-5½c.
39 -in., 68x72, 4.75	4½-4¾c.	4½-4¾c.	6½-6⅝c.
39 -in., 72x76, 4.25	5⅛c.	5⅛-5½c.	7-7⅛c.
39 -in., 80x80, 4.00	5½-5⅝c.	5½-5⅝c.	7½-7⅝c.
BROWN SHEETINGS			
36-in., 56x60, 4.00	4¼-4⅜c.	4¼-4⅜c.	5⅛c.
36-in., 48x48, 3.00	4¾-4¼c.	4¾-4¼c.	6¼c.
37-in., 48x48, 4.00	4¼c.	4¼c.	5½-5⅝c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	4¼c.	4¼c.	6⅛c.
36 -in., 64x60, 5.75	4-4¼c.	4¼c.	5⅛c.
MISCELLANEOUS			
Drills, 37-in., 3 yd.	4¼c.	4¼c.	6⅛c.
Denims, 2.20	9¼c.	9¼c.	12⅛c.
Tickings, 8 oz.	12 c.	12 c.	15 c.
Standard prints	6¼c.	6¼c.	7⅛c.
Eastern staple ginghams, 27-in.	6 c.	6 c.	8 c.

Cotton Waste

Peeler comber	6 - 6¼
Peeler strips	5 - 5¼
Sak. comber	4¾ - 5
Choice willowed fly	2¾ - 3¼
Choice willowed picker	2 - 3
Sak strips	6¾ - 7¼
Linters (mill run	2 - 2¾
White spooler (single)	4¼ - 4½

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c., higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.12½	22s	$0.16
10s	- .13	24s	- .17
12s	- .13½	26s	- .18
16s	- .14½	30s	- .19
20s	- .15	40s ex. qual.	- .28

TWO-PLY SKEINS AND TUBES

8s-2	$0.13	26s-2	$0.18- .18½
10s-2	- .13½	30s-2	19½- .20
12s-2	- .14	36s-2	- .25
14s-2	- .14½	40s-2	- .26
16s-2	- .15	40s-hi.brk.	- .28
20s-2	15 - .16	50s-2	- .33
24s-2	17 - .17½	60s-2	- .36

SINGLE WARPS

10s	$0.13	24s	$0.17
12s	- .13½	26s	- .18
14s	- .13¾	30s	- .19½
16s	- .14	40s. ex.qual.	- .28
20s	15 - .15½		

TWO-PLY WARPS

8s-2	$0.13	24s-2	$0.17½-0.18
10s-2	.13½	26s-2	.18½ .19
12s-2	.14	30s-2	.19½- .20
14s-2	.14½	40s-2 ordin.	- .26
16s-2	.15	50s-2	- .33
20s-2	.15½- .16	60s-2	- .36

8s-2 and 4-ply skeins and tubes; tinged, 11½; white, 12½; waste, 11

HOSIERY CONES (Frame Spun)

8s	$0.12½	22s	$0.16 -0.16½
10s	- .13	24s	- .17
12s	- .13½	26s	- .18
14s	- .14	30s tying	18½- .19
16s	- .14½	30s reg.	.20 - .20½
18s	- .15	30s ex.qual.	.21 - .22
20s	15½- .16	40s	- .26

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25	60s-2	$0.39 - .40
30s-2	.27 - .28	70s-2	.50 - .52
36s-2	.29 - .30	80s-2	.60 - .63
40s-2	.30 - .31	90s-2	.85 - .87
50s-2	.33 - .35	100s-2	.98 -1.05

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.25	60s-2	$0.40 -0.41
30s-2	.28 - .29	70s-2	.50 - .52
36s-2	.30 - .31	80s-2	.60 - .62
40s-2	.31 - .32	90s-2	.85 - .90
50s-2	.35 - .36	100s-2	.95 -1.02

SINGLES

12s	$0.18½-0.19½	30s	$0.26 -0.27
14s	19 - .20	38s	.28½- .29
16s	.19½- .20½	40s	.29 - .30
18s	.20 - .21	50s	.33 - .34
20s	.21 - .22	60s	.40 - .42
24s	.23 - .24	70s	.51 - .53
28s	.25 - .26	80s	.60 - .63

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.37 -0.38½	90s-2	$0.90
30s-2	.38 - .40	100s-2	1.15 1.25
36s-2	.40 - .42	120s-2	1.50 1.60
40s-2	.42 - .44	30s	.49 - .51
45s-2	.43½- .44½	40s	.54 - .56
50s-2	.45 - .47	50s	.60 - .62
60s-2	.50 - .52	60s	.68 - .70
70s-2	.64 - .66	70s	.80 - .83
80s-2	.74 - .75	80s	.92 - .96

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed Feb. 25	For Week—High	For Week—Low	Closed Mar. 2	Net Ch'g
February	....	....	....	....	....
March	6.98	7.00	6.81	7.04	+.06
April	....	6.99	6.90	7.09	....
May	7.15	7.17	6.93	7.15	....
June	....	7.15	7.05	7.23	....
July	7.30	7.32	7.09	7.32	+.02
August	....	7.30	7.21	7.38	....
September	....	7.27	7.37	7.45	....
October	7.51	7.55	7.30	7.53	+.02
November	....	7.52	7.43	7.60	....
December	7.68	7.69	7.47	7.69	+.01
January	7.74	7.76	7.54	7.77	+.03

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, Feb. 25	7.15	6.91	5.82
Friday, Feb. 26	7.05	6.87	5.79
Saturday, Feb. 27	7.05	6.83	5.72
Monday, Feb. 29	7.00	6.83	5.67
Tuesday, Mar. 1	7.00	6.79	5.72
Wednesday, Mar. 2	7.20	7.02	5.71

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Mar. 1.		Change
Mar. Sak	13.92	—0.30
Apr. Uppers	11.83	—0.06
Mar.-Apr. Shipment c. i. f. Boston (Tariff not included)		
Fully good fair Sak (No. 38)		13.00
Fully good fair to good Uppers (No. 10)		11.25

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	16½
Peruvian Pima No. 1	16
Peruvian Moderate Rough	11½
Peruvian Full Rough	17
China Tientsin No. 1	9½
India Rough	7 to 10
India Smooth	6½ to 7½

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year
Week	202,000	150,000
Season	12,600,000	11,526,000

WORLD VISIBLE SUPPLY

	Feb. 26	One Year Ago
Interior towns and ports of U.S.*	6,777,000	5,513,000
Afloat to and at ports of Europe	1,462,000	1,872,000
Afloat to and at ports of Orient	1,104,000	364,000
Total	9,343,000	7,749,000
Decrease	33,000	Decrease 2,000
Change during week		

*Includes afloat to New York.

FORWARDINGS TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No. States, U.S.	16,000	541,000	18,000	558,000
So. States, U.S.	77,000	3,067,000	58,000	2,630,000
Total U.S.	93,000	3,608,000	76,000	3,188,000
Great Britain	31,000	742,000	20,000	537,000
Continent	66,000	2,085,000	42,000	2,158,000
Orient	41,000	1,872,000	11,000	789,000
Canada and other America	4,000	117,000	3,000	142,000
Total Foreign Countries	142,000	4,816,000	76,000	3,626,000
World total	235,000	8,424,000	152,000	6,814,000

EXPORTS FROM UNITED STATES

Total	183,000	5,751,000	89,000	4,888,000

AVERAGE PRICE MAR.-APR., SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1—in	8½- 8¾c.	9¼- 9½c.
1 1/16-in	9¼- 9½c.	9¾-10c.
1—in	10¼-10¾c.	11c -11¼c.
1 1/16-in	12½-13½c.	13¼-14¼c.

Basis on New York, March, 6.96.

SPOT FLUCTUATIONS AND STOCKS

Markets	Feb. 24	Mar. 2	Sales	This Week	Last Year
Galveston	6.85	Holiday	2,643	876,814	609,646
New Orleans	6.85	7.02	14,733	1,118,511	803,780
Mobile	6.55	6.70	9,306	213,448	243,931
Savannah	6.88	7.04	4,830	277,992	354,889
Norfolk	6.96	7.07	1,235	66,974	90,545
New York	7.05	7.20	3,248	208,395	229,148
Augusta	6.88	7.06	2,010	128,919	105,080
Memphis	6.25	6.35	41,429	449,831	323,150
St. Louis	6.50	6.50	....	....	14,195
Houston	6.85	Hol'dy	12,925	1,531,283	1,346,176
Dallas	6.40	Hol'dy	17,818	32,510	17,135

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.50†	.75†	0.65†	0.63†	0.65†
S.G.M.	.40†	.50†	.55†	.56†	.51†
G.M.	.30†	.40†	.40†	.38†	.37†
S.M.	.20†	.25†	.25†	.19†	.23†
S.L.M.	.20*	.20*	.25*	.19*	.23*
L.M.	.40*	.50*	.50*	.38*	.47*
S.G.O.**	.75*	.75*	.85*	.75*	.79*
G.O.	1.00*	1.00*	1.15*	1.13*	1.08*

YELLOW TINGED

G.M.	0.25*	0.25*	0.25*	0.25*	0.26*
S.M.	.35*	.40*	.35*	.38*	.38*
M.**	.50*	.50*	.50*	.50*	.51*
S.L.M.	.90*	.90*	.85*	.75*	.86*
L.M.	1.25*	1.25*	1.15*	1.13*	1.22*

YELLOW STAINED

G.M.	0.40*	0.65*	0.50*	0.38*	0.51*
S.M.**	.65*	1.05*	.85*	.75*	.87*
M.**	1.00*	1.15*	1.15*	1.13*	1.21*

BLUE STAINED

G.M.**	0.65*	0.60*	0.50*	0.50*	0.56*
S.M.**	1.00*	.80*	.85*	.88*	.89*
M.**	1.25*	.90*	1.15*	1.13*	1.17*

**Grades not deliverable on contract.
*Off Middling. †On Middling

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne	$0.23 – $0.24	⅜ blood	$0.23 – 0.23½
Fine clthg	.20 – .21	¼ blood	.21 – .22
½ blood	.23 – .24		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.54 – 0.56		
California, Northern	.46 – .48		

PULLED—EASTERN (CLEAN BASIS)

A-A	$0.56 – $0.58	B-Super	$0.43 – 0.45
A-Super	.48 – .50	C-Super	.38 – .42

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.55 – 0.57
Staple ½ bld	.53 – .55
Fine and fine medium	.52 – .55
⅝ blood	.48 – .50
½ blood	.40 – .42

MOHAIR—DOMESTIC

Best carding	$0.25 – 0.28
Best combing	.32 – .35

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 – 0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.38 – 0.40
64s	.30 – .32
58s-60s	.28 – .30

(IN GREASE)

Montevideo:	
58s-60s	$0.17 – 0.18
56s	.16 – .17
50s	.15 – .16
Buenos Aires:	
4s, 40-44s	$0.10 – 0.11
5s, 36-40s	.09 – .10

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.19 – 0.20
China: Combing No. 1	.12 – .13
China Filling Fleece	.11 – .12
Szechuen ass't	.12 – .13
Cordova	.09 – .10
Scotch black face (nominal)	.14 – .16
East India: Kandahar	.15 – .16
Vican'r	.19 – .20
Joria	.19 – .20

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75
2-24s 40s	– .80
2-26s 44s	.82½ – .85
2-28s 46s	– .87½
2-30s 48s	.92½ – .95
2-32s 50s	.97½ – 1.00
2-30s 64s fancy mixes	1.25 – 1.27½

(Single yarns 5c. less than above)

2-36s 58s	1.05
2-40s, 60s	– 1.20
2-40s, 64s	1.27½ – 1.32½
2-50s, 66s	1.40 – 1.45
2-60s, 70s	1.82½ – 1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.70 – .72½
2-20s, 48s in oil	.72½
2-20s, 50s in oil	– .75
2-20s, 56s in oil	.92½ – .95
2-20s, 60s in oil	– 1.00
2-20s, 64s in oil	1.12½ – 1.15
1-18s, 48s dyed	.87½ – .90
1-18s, 50s dyed	.90 – .92½

(Oil yarns 17½c. less)

FRENCH SYSTEM

1-20s, 58s	.97½ – 1.00
1-20s, 60s	1.02½ – 1.05
1-18s, 64s, dyed	1.25 – 1.27½
1-26s, 64s	1.05 – 1.07½
1-30s, 66s, Warp	1.12½ – 1.15
1-30s, 64s, Warp	1.15 – 1.17½
2-30s, 64s, Fancy mixes	1.32½ – 1.35
2-40s, 64s, Zephyrs	1.25 – 1.27½
1-50s, 66s	1.42½ – 1.47½
2-50s, 66s	1.40 – 1.45
1-60s, 70s	1.75 – 1.80
2-60s, 70s	1.90 – 1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$0.90 – .95
1-40s, 50-50-60s on cops	1.00 – 1.02½
1-40s, 50-50-64s on cops	1.02½ – 1.05
1-40s, 50-50-64s Australian cops	1.10 – 1.15

Underwear mixes, 3 to 5c. Solid color, 35c. additional.

New York Top Futures

	Closed Feb. 24	For Week High	For Week Low	Closed Mar. 1	Net Ch'ge
March	68.00	68.40	66.20	66.50	—1.50
April	68.00	68.00	67.20	67.50	—0.50
May	68.00	68.00	67.40	67.50	—0.50
June	68.00	68.00	67.40	67.50	—0.50
July	68.00	68.00	67.40	68.00	.....
August	68.40	68.40	67.40	68.00	—0.40
September	68.40	69.00	68.00	68.00	—0.40
October	68.40	68.60	68.40	68.40	.....
November	68.50	68.50	68.40	68.50	.....
December	68.50	68.50	68.00	68.50	.....
January	68.50	68.50	68.00	68.50	.....

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.77 – 0.78
Half-blood (60-62s)	.71 – .73
High ¾ blood (58s)	.66 – .68
Aver. ¾ blood (56s)	.60 – .62
Low ¾ blood	.57 – .58
High ¼ blood (50s)	.51 – .53
46s S. A. and N. Z.	.55 – .57
44s S. A. and N. Z.	.50 – .52
40s S. A. and N. Z.	.46 – .48

TOPS — BRADFORD, ENG. (FEB. 26)

Fine (70s)	25½d	¾ bld. (56s)	17½d
Fine (64s)	23½d	½ bld. (50s)	13 d
½ bld. (60s)	22½d	Cross-bred (46s)	10½d

NOILS — BOSTON

Fine	$0.35 – $0.38	High ¼ bld.	$0.26 – $0.28
Half-bld.	.32 – .35	Low noils	.20 – .23
Aver. ¾ bld.	.28 – .30	Medium colored	.18 – .20
Fine colored	.23 – .28		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.60 – .62
Lap, fine colored	.40 – .43
Hard ends, fine white	.40 – .42
Hard ends, ¼ blood white	.28 – .31
Hard ends, fine colred	.18 – .20
Hard ends, medium colored	.13 – .15
Card, fine white	.23 – .25
Burr, fine carbonized	.24 – .26

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.04½ – 0.05
Merinos, fine dark	.02½ – .03
Merinos, fine light	.09 – .10
Serges, blue	.04½ – .05
Serges, black	.04½ – .05½
Serges, red	.07½ – .08
Knit, white	.22 – .23
Knit, red	.08 – .08½
Knit, light hoods	.09½ – .10½
Worsted, light	.03½ – .04
Worsted, blue	.05 – .05½
Worsted, black	.05½ – .06

Silk Yarns

THROWN SILK (60 day basis) Prices Nominal

Japan organzine, 2 thd. spec. gd. XX sk 85%	$3.00
Japan organzine, 2 thd. grand sk. 83%	2.80
Japan organzine, 2 thd. sp. crack. sk. 81%	2.65
Japan crepe, 3 thd. gd. XX bob. 83%	2.80
Japan crepe, 3 thd. sp. crack. bob. 81%	2.70
Japan grenadine, 4 thd. sp. grand singles, 87%	3.85
Japan grenadine, 3 thd. 90%	4.85
Canton crepe, 3 and 4 thd. 14/16 on bobbins	1.95
Hosiery tram, 3 thd. Japan 90%	3.75
Hosiery tram 5 thd, Japan, 85%	2.80
Hosiery tram, crack XX 78%	2.50

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.35
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods) Prices Nominal

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$1.95	$2.00	$2.05
Special Grand, 85%	2.05	1.90	1.95
Grand XX, 83%	1.90	1.80	1.85
Special Crack, 81%	1.85	1.80	1.85
Crack XX, 78%	1.75	1.75	1.80
Extra Extra, 73%	1.79	....	....
Best Extra, 68%	1.60	....	....

Canton filature, new style, 14/16	$1.65
Canton filature, new style, 20/22	1.60
Tussah filature, 8 cocoon	1.00

NATIONAL RAW SILK EXCHANGE

	Close Feb. 24	For the Week High	For the Week Low	Close Mar. 1	Net
February	1.50	1.51	1.50	....	.....
March	1.54	1.58	1.50	1.58	+0.04
April	1.60	1.61	1.54	1.58	—0.02
May	1.60	1.64	1.55	1.59	—0.01
June	1.62	1.64	1.56	1.64	+0.02
July	1.62	1.65	1.57	1.65	+0.03
August	1.62	1.66	1.57	1.65	+0.03
September	1.63	1.66	1.51	1.64	+0.01
October	....	1.68	1.61	1.65	.....

Total number of bales, 4,660. Total approximate value, $1,177,582. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
30	8	$2.25	...
50	12-18	1.35	$1.25
75	18-30	1.20	1.10
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.72	.70
150	24-44	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	.75	.72
300	42-62	.63	.60
450	42-72	63	.60
600	72-96	.63	.60
900	100-144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

Open bleached waste	$0.13 – $0.14
Open bleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06 – .07
Colored thread waste	.03 – .04
Colored clips	.03 – .04

CONVERTED RAYON WASTE

Bleached tops	$0.30 – $0.32½
Unbleached tops	.27 – .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10 – .11

Silk Waste

Kibizzo Kakai Grand XX	0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

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